The Dissertation Committee for Mark Lowry Decker

Certifies that this is the approved version of the following dissertation:

Assessing the Mindfulness Attributes of Teaching Assistants Assigned as Discussion Facilitators

Committee:

Marilla Svinicki, Supervisor

Diane Schallert

Kristin Neff

Erika Patall

Margaret Syverson

Assessing the Mindfulness Attributes of Teaching Assistants Assigned as Discussion Facilitators

by

Mark Lowry Decker, B. A.; M.S.S.W.

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Dedication

I dedicate this labor of love, hope, and wonder to my children—Vincent, Julia, and Aidan.

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Abstract

Assessing the Mindfulness Attributes of Teaching Assistants Assigned as Discussion Facilitators

Mark Lowry Decker, PhD

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Supervisor: Marilla Svinicki

This study investigated the relationship between student ratings of teaching and the mindfulness attributes of teaching assistants in freshmen courses consisting mostly of discussion. Regression analyses were run to determine whether teaching assistant data (n = 19), related to their *teaching efficacy, trait mindfulness, mindfulness practices, self-compassion, and teacher concerns*, were predictive of student ratings of teaching assistants' combined scores on three concatenated Likert-scale evaluation items—*the teaching assistant is kind and respectful of me, is patient with my questions,* and *is receptive to my questions*. As modeled, there was no significant relationship between these teaching assistant characteristics and the components that were examined.

A subset of the population (n = 6), participated in follow-up interviews. A comparative and interpretative analysis of the interview data followed, which examined the teaching assistant narratives using the following variables as filters—*teaching efficacy, trait mindfulness, mindfulness practices, self-compassion, and teacher concerns*—in addition to the metacognitive constructs of *Knowledge of Cognition* and

Regulation of Cognition. Overall, the interview component of the study found that teaching assistants who could better articulate their teaching processes and instructional goals reported purposefully engaging in the internal and external dialogic processes of instruction. Moreover, interview analysis suggests that teaching assistant evaluations were a poor means of assessing instructional skills, aptitude, or performance.

In addition, while the tools used in this study, the Five Facet Mindfulness Questionnaire, the Mindfulness Process Questionnaire, the Self-Compassion, Scale, the Teacher's Sense of Efficacy, and the Teacher's Concerns Checklist, might reliably assess attributes of good instructors, they do not appear to capture the whole essence of one's instructional narrative. Whether it is through interviews, or intricate scenarios, instructional evaluation, especially when its purpose is to improve instruction, should have a qualitative and reflective component.

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Chapter 1: Introduction

> ". . . the teacher's *sense* of what is needed, what is right here and now, are critical aspects of skilled teaching" (Eisner, 1990, p. 97).

Beginning in fall 2010, all undergraduate students at the University of Texas at Austin were required to enroll in a Signature Course. These courses, often cross-discipline, are designed to help first-year students acclimate to the college environment. Discussion sections are a key component of these courses—this transition. These courses, facilitated by more than 100 graduate student teaching assistants (TAs), lay the groundwork for these new students' oral engagement, which can become a critical component in their academic growth. The TA facilitators, those charged with modeling the scholarly exchange on this high school-to-college bridge, are the subjects of this study. In this study I attempt to make a connection between the TAs' ability to be mindful of their own and their students' thoughts and feelings and the TAs' success as a facilitator in this important situation.

Although University-wide training is available for teaching assistants, most current offerings or resources tend to be task-focused. That is, teaching assistants have access to professional development resources primarily comprised of methods on how best to manage and plan for their discussion sections. In addition to the current professional development offerings, it has been suggested that training be designed to cultivate and encourage TAs' reflective practice, or their "pedagogical tact—an active intentional consciousness of thoughtful human interaction" (Van Manen, 1995, p. 9) geared to acknowledge self-concerns while being learner-focused. From a teacher concerns theory perspective,

> "the learning process for a prospective teacher [is described] as a natural flow from concerns for self (teacher) to task (teaching) to impact (pupil). The physical,

> mental, and emotional states of the prospective teacher play an important role in the shift of focus from self to task to impact. The lack of adequate (self) knowledge or emotional support during the critical preteaching and student teaching periods can result in a slower, more labored shift of focus to task. (Emphasis added.) This, in turn, can result in failure on the part of the teacher to reach a concern for his or her impact on students" (Borich & Tombari, 1997, p. 13).

Therefore, the current task orientation of effective discussions training, though critical, may not be optimal for introducing new teaching assistants to the concept and process of impact-oriented thinking. In fact, as Fuller questioned in her original research on teacher concerns, early, self-oriented concerns may need to be successfully resolved before late, more mature, impact or student-oriented concerns can truly become a teacher's focus (Fuller, 1969).

The skills necessary to effectively engage students in an exchange of ideas— a respectful dialog grounded in scholarship—can be confounded by emotional or non-factual exchanges within the discussion classroom and perhaps precipitated by the teaching assistants' own lack of purposeful engagement. To some extent, discussion leading skills may help discussion facilitators to navigate these exchanges. However, expertise in other skills—observing, describing, acting with awareness, non-judging of one's inner experience, and non-reactivity to inner experiences—that as a whole represent mindfulness, along with a healthy dose of self-compassion, may also positively impact one's discussion facilitation abilities.

A TA's skill in or tendency toward mindfulness, which is closely related to the constructs of self-reflection, self-regulation, and metacognition, may be the means whereby discussion TAs display the practice of consciously and continually assessing and validating their own realities within a discussion facilitator role. In addition, mindfulness, as a practice, could be construed as a means of proactively acknowledging

and addressing the "self-concern" of the teacher concerns theory triad—self-task-impact. This may enable teaching assistants to more quickly and more competently develop as effective, student-focused, discussion facilitators.

Baer and colleagues, in their description of a validated Five Facet Mindfulness Questionnaire, define those mindfulness skills, or facets, as follows:

> *Observing* includes noticing or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells. *Describing* refers to labeling internal experiences with words. *Acting with awareness* includes attending to one's activities of the moment and can be contrasted with behaving mechanically while attention is focused elsewhere (often called automatic pilot). *Nonjudging* of inner experience refers to taking a nonevaluative stance toward thoughts and feelings. *Nonreactivity* to inner experience is the tendency to allow thoughts and feelings to come and go, without getting caught up in or carried away by them. (2008, p. 330)

The purpose of this study was to explore the extent to which teaching assistants' mindfulness is related to their teaching evaluations by students. This mindfulness quality was determined in part by surveying the TAs to assess their current *trait* mindfulness—the total score as determined by concatenating the facet results—and their actual mindfulness *practices*, their beliefs in regards to their teaching *efficacy*, and their *impact*-concern orientation (their student-learning focus). In addition, *self-compassion*—defined as having a compassionate attitude toward oneself while also being concerned about, and appreciating one's integration with others (Neff, 2003)—was measured and examined. An examination of the data, along with the student instructor evaluation data collected from each discussion section at the end of the semester, and interview data, was conducted to determine the extent that one's mindfulness predicted selected TAs' Course Instructor Survey (CIS) scores, as determined by their students.

In part, this exploratory study was intended to reveal whether TAs who received

better CIS Scores also exhibited scores on the Teacher Concerns' Checklist that reflected an *impact*-oriented or student-learning focus, perhaps related to their mindfulness practices.

In addition, a subset of TAs were interviewed to determine the nature of their mindfulness practices, the extent to which those practices informed their discussion facilitation responsibilities, the amount and type of planning they engaged in pre-discussion session, and the nature of any post-discussion session teaching-oriented reflections that occurred. The make-up of the study itself, one that included surveys that address issues such as teaching self-efficacy, self-compassion, and teacher concerns, as well as practices that may support mindfulness attributes—observing, describing, acting with awareness, non-judging, and non-reactivity—was intended to encourage the type of reflection called for in the following quote from the National Council for Accreditation of Teacher Education Blue Ribbon Panel Report--Transforming Teacher Education Through Clinical Practice: A National Strategy To Prepare Effective Teachers.

> "They (*new teachers*) need to have opportunities to reflect upon and think about what they do, how they make decisions, how they 'theorize' their work, and how they integrate their content knowledge and pedagogical knowledge into what they do." (2010, p. 9)

This study tried to clarify the thinking processes that discussion facilitators—often, new teachers—have as they engage with their students. It also attempted to clarify which of those new teachers, perhaps due to their mindfulness attributes or practices, or their sense of teaching efficacy, or their self-compassion, were perceived as discussion facilitators who tended to respond to and have patience with student questions. This clarification, by way of this study, attempted to answer the following research questions:

Research question 1: Which of the variables—trait mindfulness, mindfulness practice, teacher's sense of efficacy, self-compassion and teacher *impact* concerns—were good predictors of positive responses on the CIS measures of teaching qualities of kindness, patience and receptiveness?

Research question 2: Do those TAs that receive higher CIS scores described above practice mindfulness?

Research question 3: If TAs do practice mindfulness, in what way and how frequently?

Research question 4: How do the TAs' metacognitions related to their classroom mindfulness practices inform their discussion facilitation?

Chapter 2: Literature Review

If each time you curse or gesture at a slow or aggressive driver, you purposefully ease your attention to become aware of your actions and the associated thoughts; you practice mindfulness. You may choose, in fact, to reflect on your actions and thoughts, learning to better regulate them, and perhaps change your behavior, especially if, for instance, you have passengers—friends, partners, children or students—along for the ride. Over time, as you become better practiced, more adept, you may come to recognize triggers to the automatic reactions you have as a driver. You may also learn to adapt to your passengers. You accept the student that always want to ride shotgun, you know the backseat driver, and you know the students who want to let their hair hang out the window and enjoy the ride. It may be that you choose to become more comfortable with a new practice of non-automaticity—an active, non-judgmental awareness—and, that, over time, you become more efficacious at *mindfulness*—you become more aware perhaps of your passengers and your interactions with them. You may consider how you process those interactions as well as how you process those you have with other drivers/learners, and how your consideration can impact the nature of the journey.

Similarly, some teaching assistants (TAs) may already engage in those *mindfulness practices* in regards to their facilitation of class discussions. Others may not. If, however, those who engage in mindfulness practices are perceived by their students as exhibiting more *kindness, patience, and receptiveness*, then instructional development programs may consider adding mindfulness training as a way to help TAs be more effective. Departments may prefer to select a TA, who, when excited by a stance or a student, is more apt consciously to choose actions and reactions that encourage effective discussion. This standpoint, one that encourages an opportunity for actively considering

one's classroom practices, falls inline with the National Council for Accreditation of Teacher Education's (NCATE) Blue Ribbon Panel call for new teachers to have opportunities to "reflect upon what they do, how they make decisions, how they 'theorize' their work and how they integrate their content knowledge and pedagogical knowledge into what they do" (2010, p. 9).

Teacher assistant training is typically, if provided, focused on teaching tasks—the *how* of teaching. Seldom are affective or pedagogical tact issues addressed. Such a concept, one grounded in self-reflection, self-regulation, and metacognition, based on the concept of mindfulness and coupled with a healthy dose of self-compassion, with opportunities to engage in self-awareness practice, could encourage a shift to an *impact*-oriented teacher concern—one perhaps represented by positive scores on an end-of course-evaluation.

The goal of the current study was to shed light on whether those teaching assistants who are more mindful, more self-compassionate, more self-efficacious, and more student learning-oriented tend to receive higher scores relating to student/teacher interactions on their end-of-course evaluations. If so, NCATE's call from above supports the suggestion to develop training for discussion facilitators that develops their practices—at self-reflection, self-regulation, and metacognition—and a self-compassionate mindfulness—in order to positively impact the discussion classroom and their own sense of efficacy.

TEACHER ASSISTANTS AS DISCUSSION LEADERS

Leading discussion sessions is not for the faint of heart. Yet, it is typically a central responsibility for novice teaching assistants (TAs)—the group that is the focus of

the present study. They are likely juggling the demands of their own learning goals along with the demands and responsibilities of teaching. They are engaging in oral discourse and modeling scholarly discussion with students who are often just developing their own identities as engaged-learners.

TAs often are not afforded the comfort to teach in the way that they may have imagined—safely positioned behind a lectern, their credibility buoyed by elevated vocabulary, with students rendered a distant, ephemeral, faceless, and even mindless entity. Instead, their primary initiation into teaching within academe is as discussion facilitators. Rather than delivering familiar ideas that are neatly packaged as lectures, TAs must digest and facilitate content practically on the fly—content that they may have encountered at the same time as the undergraduates they're asked to lead.

The only greater challenge is when prized TA positions are in another department, where there's little match between course content and TAs' areas of expertise or primary discipline. Under such circumstances, TAs must not only learn course content concurrently with the undergraduates, they must command it well enough to parry and thrust with (hopefully) precocious and energized novices—students ready to learn and challenge themselves, and perhaps the teaching assistants.

It seems obvious that one key to succeeding as a discussion facilitator is having the ability to think about and devote attention to one's teaching and to the process of teaching. Yet departments often provide no formal support for TAs, with little structure in place for them to reflect upon and practice the skills necessary to be effective in their roles as discussion facilitators. They assume that if one has that title, then surely that person would know how to perform the simple task of facilitating discussion, of reviewing the week's course content. There is little standardization from department-to-

department, or from university-to-university, in terms of assessing teaching-readiness. Teaching assistants could be recent graduates from a master's or bachelor's program in which there were few opportunities to develop the teaching craft.

Note, in their 2003 review of doctoral degree recipients, Hoffer et al. (2003) found—referencing *The 2002 Survey of Earned Doctorates*—that a majority (roughly 58%) of those who had earned doctorates had held teaching assistantships during their graduate careers (p. 96). This number has shifted upward based on the 2012 National Science Foundation report (Doctorate Recipients from U.S. Universities: 2010, Table 36), with 63% of males and 59% of females reporting teaching assistantship as a source of financial support while earning their doctorate. Another survey study, of 34 research universities, 15 comprehensive universities, and 16 liberal arts college from across the U.S, found that graduate teaching assistants provide the bulk of laboratory instruction at comprehensive (71%) and research universities (91%). However, only 12% of comprehensive universities and 6% of research institutions offer formal, for-credit courses for laboratory instruction (Sundberg, Armstrong, & Wischusen, 2005). Also striking was that within psychology departments, according to several national surveys over a 14-year period from 1988 through 2002 (cf. Lumsden, Grosslight, Loveland, & Williams, 1988; Lowman & Mathie, 1993; Mueller, Perlman, McCann, & McFadden, 1997; Meyers & Prieto; 2000; Buskist, Tears, Davis, & Rogrigue, 2002), "15% to 30% of TAs have not had the benefit of TA training before undertaking their duties in the classroom" (as cited in Wimer et al., 2004, p. 2). These data alone speak to the need for more formalized TA training.

Austin (2002, p. 114) suggested that, at a minimum, TAs should have opportunities to consider their relationship with instruction before being assigned their

responsibilities: "[A]ll students who aspire to be faculty members should have opportunities to think deeply about teaching." TAs should be provided tools to help them develop teaching-related perceptions. The tools and mechanisms of TA development—how it is delivered, discussed, and digested—must inform a new teacher's relationship with the discipline of teaching. Others also note the importance of integrating reflection, especially as it relates to pedagogical content knowledge, into the teaching assistant instructional development programs (Kendall & Schussler, 2012; Schussler et al., 2008).

McKeachie (1990), contemplating the future of learning and college teaching, anticipated the following demands on teachers to be presented by 21st century learners:

> We have a clearer and more comprehensive grasp of the goals of education—the intertwining of intrinsic motivation for learning with elaboration, metacognition, and "mindful" learning.
>
> We now know that we can teach thinking skills; in the next decade, we will gain a better understanding of how to go beyond discipline-specific skills to more broadly transferable intelligence (p. 197).

Indeed, it is the development of thinking skills transferable beyond the safe confines of the classroom that we must encourage in students, starting with our graduate students—the teaching assistants who become our future faculty. Fischer and Grant in 1983 contended that discussions are particularly useful for engendering critical thinking. They found that students' responses in small classes evidenced greater use of analysis, synthesis, and evaluation (as cited by McKeachie, Pintrich, Lin, Smith, and Sharma, 1990, p. 95)—all of which are higher order processes. This means there are high expectations for TAs as discussion facilitators. What may prove pivotal in determining the breadth, depth, and success of TAs in teaching, learning, and facilitating discussion is the training they receive in these thinking skills—mindfulness training, if you will,

informed by the concepts of self-reflection and self-regulation, and nurtured by metacognitively-informed self-efficacy.

A first step in determining whether such training is justified is to see if mindfulness is indeed related to better practices for discussion classes. Although this study did not include an experimental focus—one that perhaps might compare a group of discussion facilitators who had received mindfulness training with another that had not—it is intended to reveal mindfulness practices or tendencies that are predictive of effective discussion facilitation—those facilitators perceived by their students as exhibiting more kindness, patience and receptiveness.

UNPACKING MINDFULNESS

Mindfulness is a western interpretation of one of the components of Buddhism's Eightfold Path, which includes right view, right intention, right speech, right action, right livelihood, right effort, right mindfulness, and right concentration (Bodhi, 1994). Kabat-Zinn (1994) referred to mindfulness as the "heart of Buddhist meditation" (p. 4). It is also referred to as *vipassana,* or insight meditation, a component of Theravada Buddhism (Kabat-Zinn, 2003; Mikulas, 2011; Shapiro & Carlson, 2009; Siegal, 2010; Smalley & Winston, 2010). Black (2011) contends that it is an "inherent human quality of consciousness…a capacity of attention and awareness oriented to the present moment that varies in degree within and between individuals…" (p. 1). In the Buddhist tradition, it is seen as an "unfolding process…rather than as an existing entity" (Siegel, Germer, & Olendski, 2008, p. 31). This perspective, of letting go of a sense of self which has been defined, and potentially limited, by one's thoughts is key to much of mindfulness' successful integration into many existing therapeutic practices.

This "letting go" occurs most dramatically in Dialectical Behavior Therapy (DBT) with borderline personality disorder patients (Linehan, 1993a; Linehan, 1993b). Beyond the integration of mindfulness-oriented behavioral skills—observing, describing, and participating fully in one's actions and experiences, in a nonjudgmental and one-minded manner (i.e., attending to one thing at a time), with a focus on effective behavior—the goals of DBT are to help patients 1) increase conscious control over attentional processes, 2) wisely integrate emotional and rational thinking and 3) experience a sense of unity with themselves, others, and the universe (Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006, p. 463). The key to successful mindfulness-based therapy, according to Hayes and Wilson (2003), is "reducing the literal and evaluative functions of language" (p. 164) by developing a nonevaluative engagement with the here and now. They continue by suggesting that this will lead to "new, more valuable functions in previously problematic contexts" and contend that this approach—validating and dignifying one's thoughts and feelings with an eye towards ending suffering—mirrors Langer's analysis that mindfulness is the ultimate *process* goal, one that serves as a "general prophylactic for behavioral inflexibility"(p. 164).

In a revealing New York Times interview in which she shared her own history of suicide attempts and subsequent treatment, Linehan emphasized that it was her eventual ability to accept *herself* as she was—a personal epiphany in which she acknowledged that she loved herself as she was—that provided the impetus for her eventual groundbreaking work with Borderline Personality Disorder, usually extremely suicidal, patients. To Linehan, that work integrated seeming opposing constructs: "acceptance of life as it is, not as it was supposed to be; and the need to change, despite that reality and because of it" (Carey, 2011).

What follows is an example of her work: In a two-year randomized controlled trial and follow-up of 101 clinically referred women who had been diagnosed with Borderline Personality Disorder and with recent suicidal and self-injurious behavior Dialectical Behavior Therapy (DBT) was compared with Community Based Treatment by Experts (CBTE). During the two-year treatment and subsequent follow-up periods, Linehan et al., found that DBT recipients were half as likely to make a suicide attempt (hazard ratio 2.66, $P = 0.05$), required less hospitalization for suicidal ideation ($F = 7.3$; $P = 0.004$) and had lower medical risk ($F = 3.2$; $P = 0.04$). They were also less likely to drop out of treatment (hazard ratio 3.2; $P < 0.001$), had fewer psychiatric hospitalizations ($F = 6.0$; $P = 0.007$) and fewer psychiatric emergency room visits ($F = 2.9$; $P = 0.04$). In short, DBT was found to be uniquely effective in reducing suicide attempts (2006, p. 757).

Lynch et al., acknowledged the uniqueness of DBT, noting that it is the "only treatment for borderline personality disorder considered 'well-established' or 'efficacious and specific'" (2006, p. 476). They also emphasized that mindfulness, by changing the emotion-laden automatic response tendencies and associated thoughts, automatically alters the meaning of an event. In other words, where before an event—say an aversive or pleasant arousal—might have engendered an automatic avoidance (defensive) or approach (appetitive) response and a "bad" or "good" appraisal, a mindfulness approach, because no matter the arousal the response is simply to observe, results in an appraisal of "just is." See Figure 2.1 below.

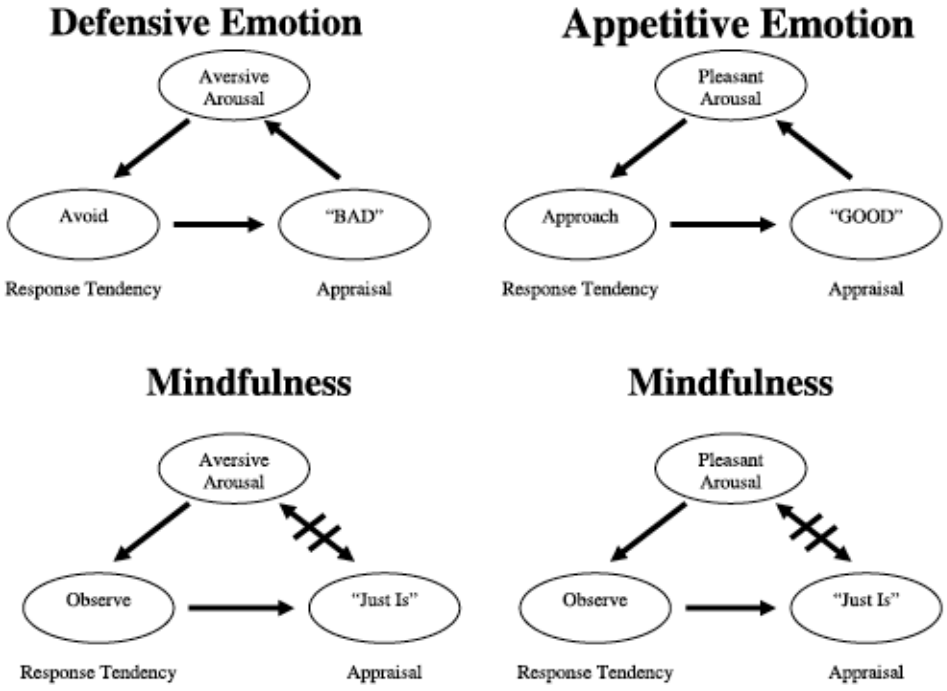

Figure 2.1. The influence of mindfulness on defensive and appetitive emotional responses. (Lynch et al., 2006, p. 465)

Besides the previously discussed Dialectical Behavioral Therapy, several other interventions incorporate mindfulness. Mindfulness-Based Stress Reduction (MBSR) consists of an 8-to-10 week courses for groups, usually consisting of up to 30 members. The groups typically meet for 2 to 2.5 hours weekly for instruction and mindfulness meditation skills practice (e.g., a 45-minute body scan, sitting meditation, Hatha yoga, and incorporation of mindfulness skills into everyday activities such as walking) (Baer, 2003; Kabat-Zinn, 1982; Kabat-Zinn, 1990). Mindfulness-Based Cognitive Therapy (MBCT) is an 8-week intervention based largely on MBSR, but with a cognitive component that includes a de-centering approach to one's thoughts with an emphasis on

attentional control. This nonjudgmental approach is believed to be key to the prevention of ruminative thinking (Teasdale, Segal, & Williams, 1995). Acceptance and Commitment Therapy, based on contemporary behavioral analysis (Hayes & Wilson, 1993), is included because clients are taught to engage in mindfulness-like behaviors—they are "encouraged to experience thoughts and emotions as they arise, without judging, evaluating, or attempting to change or avoid them" (Baer, 2003, p. 128).

Baer (2003), in her review of empirical research on mindfulness-based studies conducted a decade ago (mostly Mindfulness-Based Stress Reduction—MBSR) cited several statistically significant findings: improvements on rating of pain, other medical symptoms and general psychological symptoms for chronic pain patients (Kabat-Zinn, 1982; Kabat-Zinn, Lipworth, & Burney, 1985; Kabat-Zinn, Lipworth, Burney, & Sellers, 1987; Randolph, Caldera, Tacone, & Greak, 1999); improvements in several measures of anxiety and depression for patients with generalized anxiety and panic disorders (Kabat-Zinn et al., 1992; Miller, Fletcher, & Kabat-Zinn, 1995); improvements on several measures of eating and mood for patients with binge-eating disorder (Kristeller & Hallett, 1999); lower relapse rates, using Mindfulness-Based Cognitive Therapy (MBCT), for patients diagnosed with major depressive disorder with three or more depressive episodes (Teasdale et al., 1995); quicker clearing of skin for psoriasis patients (Kabat-Zinn et al., 1998); significant reduction in mood disturbance and stress levels for cancer patients (Speca, Carlson, Goodey, & Angen, 2000), which were maintained in a 6-month follow-up study (Carlson, Ursuliak, Goodey, Angen, & Speca, 2001); significantly statistical improvements for a sample of long-term psychodynamic patients with diagnoses including anxiety and obsessive neuroses, and narcissistic and borderline personality disorder on a variety of self-and therapist-rated symptoms (Kutz et al., 1985); statistically

significant improvements on several measures of medical and psychological functioning for Latino outpatients attending an inner city health clinic (Roth & Creaser, 1997); statistically significant improvements in medical and psychological symptoms for medical patients with a variety of medical and psychiatric diagnoses (Reibel, Greeson, Brainard, & Rosenzweig, 2001); improved immune function based on melatonin levels (Massion, Teas, Hebert, Wertheimer, & Kabat-Zinn, 1995); significant effects on psychological symptoms, empathy ratings and spiritual experiences on a student population who had completed group Mindfulness-Based Stress Reduction (MBSR) (Astin, 1997; Shapiro et al., 1998); and significant improvements in medical and psychological symptoms for a group of community volunteers who had completed MBSR to reduce their stress levels (Williams, Kolar, Reger, & Pearson, 2001). As part of her analysis, Baer computed the mean effect size for 15 independent post-treatment studies, including many of those listed above, and found an overall mean effect size of 0.59, which is a medium effect size based on Cohen (1977).

Baer (2011) also cited Carmody and Baer (2008) and Kuyken et.al. (2010), noting that "participants in MBSR and MBCT have shown significant increases in mindfulness scores over the course of treatment" (p. 251). In addition, she contended that meditators experienced higher scores on mindfulness questionnaires than non-meditators (Baer, Walsh and Lykins, 2008), and that meditation experience appeared to be responsible for improved psychological well-being (Baer et. al., 2008). She went on to note that there are differences in how meditators and non-mediators interpret *observing* (in the KIMS and FFMQ). "Meditators seem to interpret observing to mean attending to experience in a non-judgmental and non-reactive way (consistent with mindfulness), whereas non-meditators appear to interpret observing as attending to experience in ways that might (or

might not) be highly judgmental and reactive" (p. 253). In closing, she noted the importance of continued development of new tools to address deficiencies found in early iterations.

In a meta-analysis that focused on studies with nonclinical populations, Eberth and Sedlmeier 2012), found large differences between studies in which there was an MBSR component and those that used "pure" mediation of the type that might be found at a meditation center. They suggested that the differences might be because MBSR does not work exclusively through mindfulness, but with other psychoeducation components, as well. Alternatively, they suggested that the expectations of the study participants or the study methodologies themselves might explain the effect-size differences. For example, those participants who visit a stress reduction clinic might differ from those who visit a meditation center, as might the methodologies used in their various studies.

In a more general sense, Langer (1997), drawing upon her definition of mindfulness, described mindful learning as having three central characteristics: "the continuing creation of new categories; openness to new information; and an implicit awareness of more than one perspective" (p. 4). Roeser, Peck, and Nasir (2006), citing Langer, suggested that students should use her definition as a "metacognitive tool, before, during and after lessons" (p. 417). They fleshed out Langer's definition by including the need to exercise "choiceful attention to the *process* rather than the outcome of learning," and they suggested that mindfulness can be cultivated during classroom activities by invoking Langer's mindful learning characteristics (p. 417). However, Baer (2003), along with Shapiro, Brown, and Astin (2008) cautioned that Langer's cognitive model is goal-oriented and often includes an external focus that may involve learning new information, or problem-solving. Baer stressed that meditation-based mindfulness

interventions focus on the "inner experiences of the individual (e.g., thoughts, emotions) and emphasize a less-goal oriented, nonjudgmental observation" (2003, p. 126). It would be these qualities that mindful TAs would be practicing in their own teaching and modeling for their own students.

MINDFULNESS PROCESSES

Numerous research studies, as cited by Chambers, Lo, and Allen (2008) have suggested that mindfulness may promote a wide-range of healthy processes: relaxation (Dunn, Hartigan, & Milukas, 1999); reduction in overgeneral autobiographical memory (Williams, Teasdale, Segal, & Soulsby, 2000); erosion in the use of literal evaluative language (Hayes, 2003; Hayes & Schenk, 2004); increased range and flexibility in actions (Hayes, 2003); cognitive flexibility (Roemer & Orsillo, 2003); and metacognitive insight (Bishop et al., 2004; Mason & Hargreaves, 2001; Teasdale, 1999; Teasdale, Segal, & Williams, 1995). Also, Chambers, Lo, and Allen (2008) contend: "mindfulness training may significantly enhance executive cognition, especially attentional control" (p. 307).

Bishop and colleagues (2004) proposed a two-component operational definition of mindfulness: "The first component involves the self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition of mental events in the present moment. The second component involves adopting a particular orientation toward one's experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance" (p. 232). In support of this definition, they stated: "the self-regulation of attention also fosters non-elaborative awareness of thoughts, feelings and sensations as they arise" (2004, p. 232). Their definition seems to support the contention that mindfulness-based clinical constructs

target the "narrowness and inflexibility of language and human cognition" in order to encourage new perspectives in contexts in which one previously might have been literal, avoidant, or evaluative (Hayes & Wilson, 2003, p. 165).

Reinforcing this attentional focus, Brown and Ryan (2003), in their study of mindfulness using the Mindfulness Attention Awareness Scale (MAAS), found that "mindfulness is associated with heightened self-knowledge, a key element of self-regulation" (p. 843). Their work—a series of studies designed to examine the role of mindfulness on well-being—was a compilation of five studies: 1) A correlation of MAAS with several other attentional and well-being scales; 2) a comparison study which examined mindfulness differences between Zen practitioners and the general population; 3) a study that examined the degree of concordance with implicit and explicit affective experience (providing evidence for the construct validity of the MAAS and the self-regulatory capacity of mindfulness); 4) a study that examined mindfulness as a predictor of day-top-day self regulation and well-being, and 5) a final study that examined the effects of mindfulness on well-being of breast and prostrate cancer patients.

Mindfulness and Metacognition

Garland (2007) conjectured that mindfulness is a self-regulatory metacognitive process that can be developed with training and that its cultivation can lead to increased self-efficacy. In simpler terms, Kabat-Zinn (1994) maintained that mindfulness is "a practical way to be more in touch with the fullness of your being through a systematic process of self-observation, self-inquiry and mindful action" (p. 6). Conversely, in an attempt to establish definitive separation from metacognition, Brown and Ryan (2003) proposed that mindfulness, as a hyper-attentive construct, is not a cognitive process but rather a separate process, a perceptual approach that operates upon conscious content,

including emotion. Therefore, they contended, it is misleading to label mindfulness as a metacognitive skill. However, mindfulness seems to demand that one be attentive to and aware of all cognitive processes, including metacognition.

In line with this thinking, Shapiro and Carlson (2009), as they considered the process of mindfulness, use a term "reperceiving" as a metamechanism—a means whereby one is able to step outside of one's conscious emotions and thoughts and shift one's perspective in a way that supports the position that mindfulness is a metacognitive process. In fact, they also contended that it is a naturally occurring developmental process that occurs as one gains the ability to objectively examine one's inner experiences. (pp. 95-96). This "reperceiving" is triggered by the interactions of the three axioms of mindfulness—*intention, attention,* and *attitude* or "intentionally attending with openness and non-judgmentalness." In fact, they emphasized the importance of intentionally bringing those *heart qualities*—patience, compassion, and non-striving—to the attentional practice so as to avoid "cultivating the patterns of judgment and striving instead of equanimity and acceptance" (Shapiro, Carlson, Astin, & Freedman, 2006, p. 5; Shapiro, Brown, & Astin, 2008; Shapiro & Carlson, 2009). In other words, reperceiving is a process that allows one to witness or observe one's thoughts or emotions more objectively and with less reactivity.

On the other hand, Grabovac, Lau, and Willett (2011) contended that the mechanisms of the change process in mindfulness are grounded in, and better served by, what they call a *Buddhist Psychological Model (BPM)*. In their model, insight, acceptance, attention regulation, and theoretical transparence are key elements that, if properly nurtured, may improve the efficacy of mindfulness-based interventions. They went on to emphasize the importance of acceptance—a quality of awareness, not a

cognitive process—and engendered by loving-kindness or compassion-based Buddhist practices, as critical to one's well-being and symptom reduction. With acceptance, no judgment occurs, and a meditator, when recognizing a wandering of attention, can return to the object of meditation. It is the integration of three characteristics into mindfulness practice—*that sense impressions are transient (impermanence), that habitual reactions of attachment and aversion, and a lack of awareness of those habitual reactive processes, lead to suffering (suffering), and that sense impressions and mental events do not contain any lasting, separate entity that could be a called a self (not-self)*—that together enable one to experience a reduction in suffering or clinical symptoms. Supportively, Grossman (2010) suggests "Buddhist psychology focuses on the processes and transformation of conscious awareness and regards constancy of personality or self for the most part as an empty fiction" (p. 95).

Grabovac et al. also contend that the metacognitive awareness inherent in Mindfulness-based Cognitive Therapy (MBCT) (Segal, Germer, & Olendzki, 2002; Teasdale et al., 1995), the self-regulatory process in Flavell's definition of metacognition, Teasdale's definition of metacognitive awareness as "the process of experiencing negative thoughts and feelings within a decentered perspective" (Teasdale et al., 2002, p. 276) and Shapiro's (2006) meta-mechanistic process—reperceiving—are processes that are "similar or identical to acceptance" in their model (Grabovac et al., 2011, p.. 161). Again, BPM, perhaps contradictorily, emphasizes the development of insights that are not grounded in conscious reflection or cognition, but rather in "direct, non-conceptual understanding" (Grabovac, Lau, & Willett, 2011, p. 159). Also, they, along with Mikulas (2011), are concerned that there may be elements of concentration-oriented meditation that muddle the change mechanisms of many mindfulness-based interventions. For

instance, the focusing or refocusing on one's breathing—a concentration-orientation—and a standard methodology in many mindfulness-based program, tends to diminish one's awareness of the three characteristics of the BPM—impermanence, suffering and not-self—versus allowing for the experiencing of those characteristics. This may detract from a proper Buddhist-contextualized version of mindfulness, one geared towards an experiential, not necessarily a conceptual, awakening.

Some have also been critical (Chambers, Gullone, & Allen, 2009; Grabovac et al., 2011) of Garland's mindful coping model (Garland, Gaylord, & Frederickson, 2011; Garland et al., 2010; Garland, Gaylord, & Park, 2009), because it includes a positive reappraisal component, which "requires identification with and an aversion towards the original stress appraisal" (Garland et al., 2010, p. 858). Garland et al., (2010) don't disagree with the critique per se, but rather contend that mindfulness makes positive reappraisal possible, by undoing stress reaction and decreasing the likelihood of relapse into full-blown mood or psychotic episodes. The regulation of attention that induces the metacognitive function of mindfulness allows for what Shapiro (2006) referred to as reperceiving and what Garland, Gaylord and Park referred to as decentering, or a "momentary state of metacognitive awareness that accentuates semantic evaluations" (2009, p. 4), which allows for positive reappraisal. Garland, Gaylord and Frederickson (2011) went on to contend, based on a study of 339 participants in a UNC Mindfulness-Based Stress and Pain Management Program (MSPM), that there is a concomitant relationship between mindfulness and positive reappraisal.

In their 2011 study, Garland et. al. (2001) conducted paired *t* tests to examine change over time, and hierarchical regression analyses to determine whether mindfulness (as measured by the Five Facet Mindfulness Questionnaire—FFMQ) and positive

reappraisal (as determined by the Cognitive Emotion Regulation Questionnaire—CERQ) mutually promoted one another and mediated perceived stress. They determined, via a multivariate path analysis, in which change in either catastrophizing or positive reappraisal could mediate the effect of mindfulness on stress, that the "stress-reductive effects of increases in trait mindfulness are partially mediated by growth in positive reappraisal coping" (p. 63-64). Two versions of their mindful coping model are illustrated below.

Figure 2.2. The mindful coping model

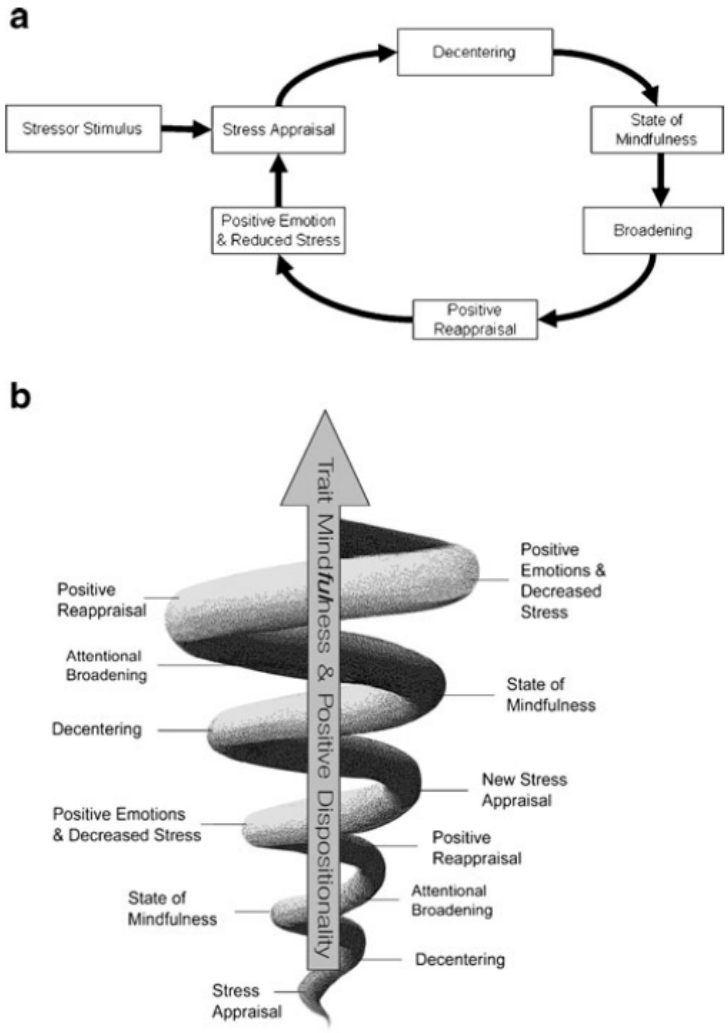

Figure 2.2. a-The mindful coping model: cross-sectional view (Garland et al., 2009). b-The mindful coping model: longitudinal view (Garland et al., 2010)

MINDFULNESS STUDIES

As you will see below, most mindfulness-based research has focused on populations with various physical or mental disorders. However, there is a sub-body of research that has examined whether the mindfulness benefits found for clinical

populations are echoed in healthy people. Chiesa and Serretti (2009) performed a literature search on existing materials and discovered 150 articles that purported to study healthy subjects. However, based on the criteria they established for a study to be included in their analysis—it had to investigate the efficacy of a MBSR intervention, it had to be performed on healthy subjects, it had to use validated scales for measurement of stress, and it had to provide quantitative data—only 10 of the 150 studies made the grade. Those included studies also had to provide pre-and post-test outcome variables or Cohen's *d* between post- and pre-test within-group-differences.

The primary outcomes measured in the meta-analysis were stress reduction and spirituality enhancement. Rumination, empathy, self-compassion and state anxiety were secondary outcome measures. Reviewed findings showed a significantly significant reduction in stress among healthy subjects who participated in MBSR when compared to groups that received no treatment (control groups). In addition, spirituality was significantly enhanced for those participating in MBSR when compared to those in an inactive control, but not to those in an active control. Finally, in the associated studies, rumination decreased significantly for those in MBSR groups, as did state and trait anxiety, while empathy and self-compassion increased. Given the multimodal nature of MBSR, the meta-analysis was not able to determine whether "mindfulness," or some other MBSR-construct, was responsible for the positive effects.

Also, a new measure, the *Mindfulness Process Questionnaire* (MPQ) may help in identifying pertinent mindfulness-related constructs. Unlike other measures, the MPQ is comprised of seven questions designed to measure how one reacts to life's uncertainties. Erisman and Roemer (2011) contended that although mindfulness has been conceptualized as a process, it has been operationalized as an outcome. Their questions,

scored based on a 5-point Likert scale, with responses ranging from *not at all characteristic of me* (value=1) to *entirely characteristic of me* (value=5), include the following:

- When I feel myself getting caught up in my thoughts and feelings. I am able to bring my mind back to what is happening right now.

- I intentionally try to be accepting of my thoughts and feelings as they occur.

In their first study, with 410 participants, they examined the relationship between the MPQ and existing measures of mindfulness—the Five Facet Mindfulness Questionnaire and the Mindful Attention Awareness Scale—specifically considering the MPQ's ability to predict psychological symptoms, emotional processing, and well-being. In their second study, 18 participants were randomly assigned to an Acceptance-Based Behavioral Therapy condition, and they examined the ability of changes in MPQ scores from pre- to post-treatment to predict similar outcomes of interest as those mentioned in the first study.

In Study 1 Erisman and Roemer (2011) "found that the MPQ predicted levels of depression and stress, distress about emotions, difficulties in emotion regulation, and quality of life and subjective happiness, beyond variance already explained by existing mindfulness measures (MAAS and FFMQ)." In Study 2, they found that changes in MPQ were significantly correlated with changes in depression, stress symptoms, difficulties in emotion regulation, quality of life and subjective happiness from pre- to post-treatment (p. 40).

From a curriculum-integration, granular perspective, Ritchhart and Perkins (2000) contended that mindfulness can be used to improve math problem solving skills. They

suggested that the *introduction of ambiguity into instruction* (i.e., the problems "could be" solved in a certain way) versus the use of absolutes (i.e., the problems must be solved in a certain way) helps nurture the disposition of mindfulness.

A more macro-orientation was presented by the University of Wisconsin-Madison Department of Family Medicine, Mindfulness in Medicine Program. They noted the following program aims:

1. Support the wellbeing of health care practitioners, residents, medical students, patients, and others through mindfulness, and;

2. Investigate how mindfulness training influences compassion, joy, career satisfaction, and resilience of primary care clinicians.

(http://www.fammed.wisc.edu/mindfulness)

According to a video they used to explain their program on iTunes U, their support of mindfulness is based on several evidence-based studies. They began with an overview of Jon Kabat-Zinn's Mindfulness-Based Stress Reduction (MBSR) 1992 study for patients with generalized anxiety disorder, panic disorder or panic disorder with agoraphobia, which found that a group stress reduction program based on mindfulness, defined as a self-regulatory behavioral strategy, significantly reduced anxiety symptoms and depression. In this study, 22 participants out of a population of 192 who had met initial screening criteria—above the 70th percentile on the anxiety subscale of Symptom Checklist-90-Revised (SCL-90-R) and who reported more than 10 anxiety-related symptoms out of the 37 on the Medical Symptom Checklist—were selected for the final pilot study. Of those not selected for the research study proper, 99 of those who met the initial criteria also participated in the stress reduction and relaxation program. (Program

instructors were blind as to which program attendees were part of the actual study.) These participants were not part of the assessment protocol required for the actual study.

A repeated measures analysis of variance (ANOVA) was used to compare the recruitment, pretreatment, post-treatment and 3-month follow-up scores of subjects for whom all data points were available. Matched t-tests were used to calculate intervention effects for the entire sample. In addition, standard t-tests were used to look at intergroup (those in the study and those not in the study, but participating in MBSR) comparisons of compliance and expectancy measures. There were significant within-group differences (study participants and non-study participants being the two groups) between pretreatment and post-treatment ($p<.05$) in the two-tailed paired t-tests. Again, the scores analyzed were from the Medical Symptom Checklist, including the Anxiety score, and the Symptom Checklist-90-Revised (SCL-90-R)—both general severity and the anxiety subscale. The results of the pilot study showed evidence of statistically and clinically significant reductions in anxiety symptoms and depression—whether they were actual study participant or among those who received the training, but did not participate in the study. "This is established by the comparison showing that the subjects who participated in the study and the patients in the stress reduction program who met the screening criteria but were not subjected to the intensive research protocol achieved similar reductions in anxiety scores on the SCL-90-R and the Medical Symptom Checklist" (p. 941) (Kabat-Zinn et al., 1992).

Another MBSR study (Kaplan et al., 1993), referenced by UW-Madison, examined the impact of mindfulness-oriented treatment on the fibromyalgia symptoms of 59 of 77 patients who competed the program. In this study, there was no control group. The majority of the participants showed clinically significant improvement (defined as at

least 25% improvement in half of the outcome measures) after only 10 group-based MBSR sessions in areas such as pain, global well-being, fatigue and coping strategies, among others.

In yet another study cited by UW-Madison, Teasdale et al. (2000) found that, one year post-treatment, for those who had experienced, upon entry into the study, three or more depressive episodes (77% of the overall sample) the relapse rate was approximately half for those participating in a treatment plan with the add-on component (n=63)—Mindfulness-Based Cognitive Therapy (MBCT)—compared to those who simply received treatment as usual (n= 69). The MBCT (an 8- week group-oriented treatment) was geared towards encouraging more awareness of thoughts and feelings as mental events versus as defining characteristics of self.

A study involving MBCT, also listed by UW-Madison, and authored by Kuyken et al., (2008), found a decrease in relapse rates among patients with recurrent depression. In a two-group randomized controlled trial, they compared patients receiving antidepressant medication maintenance (m-ADM) (N = 62) with those receiving MCBT plus support to taper or discontinue their medications (N = 61). Relapse/recurrence rates over 15-month follow-ups in MBCT were 47%, compared with 60% in the m-ADM group (hazard ratio = 0.63; 95% confidence interval: 0.39 to 1.04). Of particular note is that ADM usage in the MBCT group was significantly reduced, with 46 patients (75%) completely discontinuing their anti-depressant medications.

This public buy-in to mindfulness by the University of Wisconsin seems to echo a more generalized public declaration that many clinicians, providers, therapists and others seem to want to present to the world—that there is something in the mindfulness construct that resonates, and these particular robust studies are publically-shared evidence

of that. Wisconsin's Mindfulness in Medicine Program also provided lessons for meditative practice, research studies and other health-improvement resources.

MINDFULNESS ON EDUCATION

The enthusiasm for mindfulness becomes more apparent when one discovers the listing of 70 universities and centers that conduct mindfulness research—http://www.mindfulexperience.org/research-centers.php. Furthermore, the U.S. National Institutes of Health lists 267 studies that touch on some aspect of mindfulness—http://clinicaltrials.gov/ct2/results?term=mindfulness. What is more, the Mindfulness Research Guide website, dedicated to proving access to the above resources as well as a monthly newsletter that highlights current mindfulness research, trumpets the tremendous growth in mindfulness publications on the following graph:

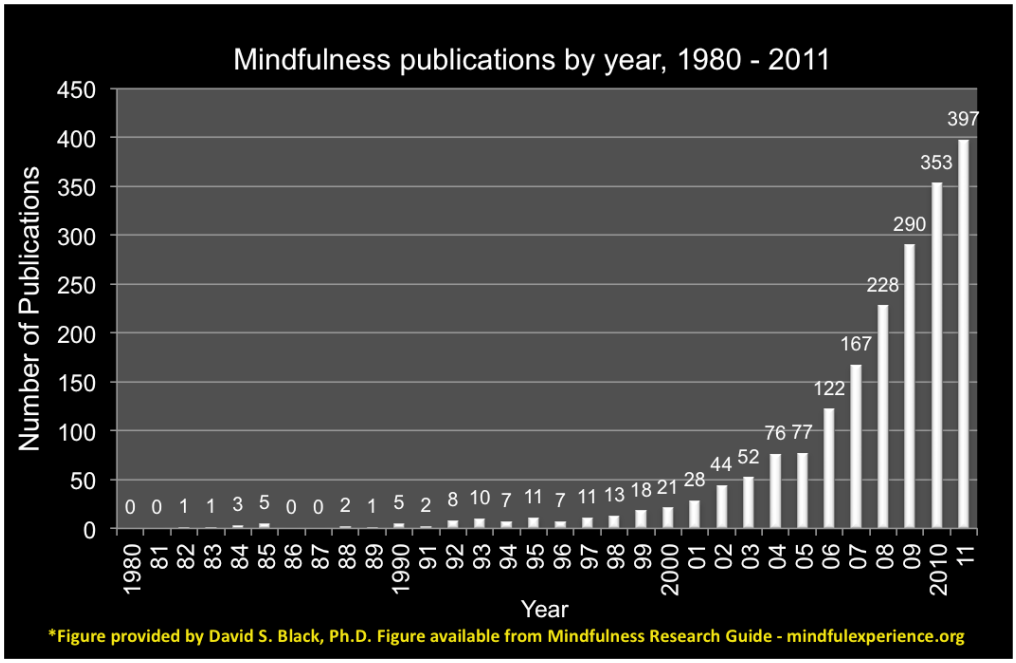

Figure 2.3. Mindfulness publications by year. (Black, 2012)

In addition, competing online sites, Mindfulness Education Network (http://www.mindfuled.org/), the Association for Mindfulness in Education (http://www.mindfuleducation.org/) and Mindfulnet.org, provide various collections, guides and videos, cultivate relationships and resources, and attempt to stake their claim on the mindfulness construct and its potential in education.

In their review of the research on the integration of mindfulness into higher education, Shapiro, Brown, and Astin (2008; 2011) suggested that mindfulness meditation can impact higher education by enhancing cognitive and academic performance, by helping to manage academic-related stress, and by developing the "whole-person" (p. 9). They delineate their three research categories and list specific findings for each:

Cognitive and Academic Performance

- Mindfulness meditation may improve ability to maintain preparedness and orient attention.
- Mindfulness meditation may improve ability to process information quickly and accurately.
- Concentration based meditation, practiced over a long-term, may have a positive impact on academic achievement.

Mental Health and Psychological Well-Being

- Mindfulness meditation may decrease stress, anxiety, and depression.
- Mindfulness meditation supports better regulation of emotional reactions and the cultivation of positive psychological states.

Development of the Whole Person

- Meditation can support the development of creativity.

- Meditation supports and enhances the development of the skills needed for interpersonal relationships.
- Empathetic responses are increased with meditation and mindfulness practices.
- Meditation may help to cultivate self-compassion.

In another recent review of the research, Meiklejohn et al., (2012) cited several mindfulness-based studies with elementary-aged children that resulted in (the students): feeling calmer, being less reactive, more relaxed, experiencing enhanced well-being and sleeping better (Wall); improving in attention and academic performance, and a reduction in teacher-reported behavior problems (Semple et al., 2005); reductions in parent-reported behavior problems, anxiety, and anger-management problems (Semple et al., 2009); significant improvements in executive function (EF) for those who began the study with weaker EF after mindfulness training (Flook et al., 2010); and increased optimism and social competence (Schonert-Reichl & Lawlor, 2010). Remarkably, those who initially tested low in executive function in the Flook et al. (2010) study, experienced significant improvements in behavior regulation, metacognition, and overall global executive control after only 8 hours of formal training.

Meiklejohn et al., (2012) also cited several findings related to high-school aged students: improvements in sleep, reduced worry and mental distress in a multimodal study that included MBSR, cognitive therapy and insomnia treatment (Bootzin & Stevens, 2005); decreased state and trait anxiety in a study of learning disabled students at a residential school, as well as teacher rating that showed improvements in social skills, problems behaviors and academics (Beauchemin et. al., 2008); improvements in ADHD symptoms, anxiety, depression and working memory for a mixed-group of adults and adolescents with ADHD (Zylowska et al., 2008); and, self-and parent-reported

improvements in attention, overall behaviors, personal goals, subjective happiness and mindful awareness (Bogels et al., 2008), among others. Overall, in both randomized controlled studies and those that were uncontrolled, they note improvements "in cognitive (e.g., executive function, attention), mental health (e.g., anxiety and depression, stress), and interpersonal outcomes" (p. 8).

Of particular significance for the current study are Meiklejohn et al. (2012) findings in regards to three teacher-development program studies. The first program, Mindfulness-Based Wellness Education (MBWE), was developed to address teacher burnout and stress. The 9-week elective course was modeled on MBSR and uses a *wellness wheel* to explore dimensions of wellness—physical, social, spiritual, emotional, mental, vocational, and ecological—to illustrate teacher candidate learning through collage, painting, or drawing. A dimension would be introduced into each week's curriculum, and the *wellness wheel* is completely covered by the end of the course. This addresses one of three program objectives—to explore their own understanding and experience of various aspects of wellness. The other objectives are to: enhance their ability to respond (versus react) to stressful situations both within and outside of the classroom to reduce their levels of stress and improve their health; and to learn teaching strategies for bringing mindfulness and wellness into their classroom (Soloway, Poulin, & MacKenzie, 2010).

The Meiklejohn et al. (2012) MBWE portion of the research review examined two studies. The first—a 2-year controlled study—indicated increased mindfulness and teaching self-efficacy. In addition, improvements in mindfulness predicted improved teaching self-efficacy and physical health immediately after training. The second study—a 2-year action research qualitative study—resulted in five core themes, meant to convey

the added-value of MBWE to teacher education, as experienced by the teacher candidates: "(1) personal and professional identity, (2) reflective practice, (3) holistic vision of teaching, (4) social and emotional competence on practicum, and (5) engagement in teacher education" (p. 5).

Cultivating Awareness and Resilience in Education (CARE) is the focus of the second program study example (Meiklejohn et al., 2012). The aim of the intervention, based on the Prosocial Classroom model is to: "(1) improve teachers' overall well-being; (2) improve teachers' effectiveness in providing emotional, behavioral, and instructional support to students; (3) improve teacher–child relationships and classroom climate; and (4) increase students' prosocial behavior. The program was comprised of three primary components: emotional skills instruction; mindfulness/stress reduction practices; and, compassion and listening practices. Training occurred in a variety of formats, including: two 2-day sessions; four 1-day sessions; and, a 5-day intensive retreat. Results showed improvements in mindfulness, well-being and in using an autonomy supportive motivational orientation. The third example—Stress Management and Relaxation Techniques (SMART) in Education—targeted K-12 teachers and includes three curriculum elements: (1) Concentration, Attention, and Mindfulness; (2) Awareness and Understanding of Emotions; and (3) Empathy and Compassion Training. Training includes 10-30 minutes of daily mindfulness practice and was comprised of 11 sessions over 8-weeks. Study findings indicated increased mindfulness, decreased occupational stress, and increased work motivation from pre- to post-test for participating teachers (p. 5).

Another study examined the efficacy of brief mindfulness meditation (MM) training on working memory, sustained attention, visual coding, and fluency. The study,

comprised of 45 undergraduates from the University of North Carolina-Charlotte, divided students into two groups. One group participated in four, 20-minute mindfulness meditation sessions spread over a four-week period. The brief "MM training protocol promoted significant effects on several cognitive tasks that require sustained attention and executive process functioning (Symbol Digit Modalities Test, verbal fluency, and the hit runs on the n-back test)" (Zeidan et al., 2010, p. 602).

Mirabai Bush (2011) explored the introduction of mindfulness into a diverse set of schools—among them, Ivy league institutions, historically black colleges, and, state universities—and disciplines, including architecture, chemistry, and law. She contends that John Dewey and William James inspired these courses. The overarching premise behind the courses is to encourage students to engage in contemplative techniques and then to step back and appraise their experiences. The methods, she contends, "are introduced not as a replacement for but as a complement to 'third person' learning, the critical ability to observe, analyze, record, and discuss a subject at a distance," (p. 183).

Overall, the mindfulness in education research clearly shows promise in terms of improving the quality of teacher-engagement, and in student learning and behavioral outcomes. The evidence which focuses on teacher practices is most relevant for the present study and indicates that increased mindfulness may be of value to teaching assistants that facilitate discussion, and their students.

CRITICAL THINKING AND MINDFULNESS

It could be argued that developing a teaching assistant's critical thinking, instead of mindfulness, should be the priority for TA training—that what is most important for learners and their future teachers is the development of "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as

explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based…" and which is "results" oriented (Facione, 1990, p. 2).

Dewey (1933) in *How We Think* proposed that thinking is a reflective process that at its best seeks a solution, and, because of that, is self-regulated. On the other hand, Galea (2012) suggested, from a feminist perspective, that reflective teaching can only be pure, and truly critical, when it takes on a deconstructive approach, one that recognizes reflective teaching, practices the reflective processes of teaching, and then rebels against those same routinized, reflective teaching practices in order to accept new understandings about those practices. Thinking, from Dewey's perspective, is evoked by "some perplexity, confusion or doubt" (p. 10). Galea, in the same vein, contended that it's the self-mimicry, or mimesis, almost a mocking of the reflecting self, rather than acceptance of normative reflective processes, that permits reflective practice to regain its critical edge by acknowledging and accepting difference. Dewey seems to concur, suggesting that one must guard against thinking practices that have become devoid of inquiry, impatient with uncertainties, and prone to quick reaction in order to end the process of intellectual search—the stifling of the practice of inquiry. Both perspectives illustrate what Schön (1983, 1987) refers to as "reflection-in-action"—a reflective conversation that discards the routine and acknowledges context while exercising interactive analysis towards problem resolution (Calderhead, 1989). This type of effortful critical thinking then, not simply thinking about what we do and how to do it, or utilizing automatic critical thinking processes, but rather thinking about our thinking, even our critical thinking, may be purposefully brought about by engaging in mindfulness. Salomon and Globerson (1987) defined mindfulness as "the volitional, metacognitively guided

employment of non-automatic, usually effort demanding processes," (p. 625) which play a key role in learning and transfer. This seems to echo Dewey, Galea and Schön in that there is a suggestion of a wrenching away from what has been learned and previously necessary in order to accommodate new learning.

On the other hand, although mindfulness may help realize critical thinking, it does so, according to Van Manen (1991), as one of four kinds of reflection: 1) anticipatory reflection—reflection related to planning, preparation, and the consideration of alternatives; 2) active, or interactive, reflection, Schön's "reflection-in-action" – a stop-and-think type of reflection that permits us to pause, consider options, and make decisions on the spur of the moment; 3) Mindfulness, which according to Van Manen "distinguishes the interaction of tactful pedagogues from other forms of acting described above" (p. 101). This is a teacher's pedagogical interaction, the immediate, interrupted, and potentially mindful, teaching experience not informed by reflection; 4) Recollective reflection—the thinking that permits us to consider past experiences and potentially gain new or deeper understanding.

The assumption for the present study is that mindfulness is illustrative of a mind that:

> is accepting, non-judgmental, and peaceful. It tolerates paradox and lives with uncertainty and ambiguity. It is self-reflective and in dialog with other minds. It is both true to itself and socially responsible. It is appreciative, calm, patient, grateful, open and responsive, generative, in pursuit of meaning, persistent, and loving (Pava, 2008, 294-295).

Solloway and Fisher (2007), using a combination of qualitative and quantitative data as they worked towards confirming Solloway's Rasch-like measurement model, found that mindfulness practice was measureable, teachable and learnable, and described

mindfulness as "non-judgmental awareness of both internal and external experiences, moment to moment" (p. 58). Mindfulness is perhaps best considered as a process of being, which includes both critical thinking and "caring thinking"—which itself "involves learning to collaborate with others in a community of enquiry, developing empathy and respect for others" (Fisher, p. 625). A collaborative, mindfulness-based approach to learning and teaching may be key to a TA's success as a discussion facilitator; it suggests an *openness* that finds comfort in and appreciates the value of ambiguity.

Kabat-Zinn has defined mindfulness as:

> an ongoing inhabiting of the nowscape. It is a wakefulness that lies beyond being continually caught in liking and disliking, wanting and rejecting, and in destructive and unexamined emotional habits and thought patterns, no matter how important the issue, no matter how little or how great the stakes (cited in Pava, 2008, p. 294).

Mindfulness may be thought of as a non-judgmental, non-restrictive, more inclusive and ongoing process by which to pursue ever-elusive knowledge. Mindfulness includes a dispositional component of critical thinking—self-regulation (Facione, 1990) and, mindfulness for teaching assistants could encourage them to be themselves, to display and model their "hunger or eagerness" and their passion for critical thinking. Training for mindfulness, or what Van Manen (1991; 1995; 2008) refers to as "pedagogical tact" or "the experienced reality of teaching," may be a means whereby the 4th recommendation (in response to the associated finding) of *The Delphi Report*** is

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* *The Delphi Report* is a product of the Delphi Method, which requires the formation of an interactive panel of experts. These persons must be willing to share their expertise and work toward a consensus resolution of matters of opinion. The title of this report is **Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction**

realized:

> FINDING: Although the language here is metaphorical, one would find the panelists to be in general accord with the view that there is a critical spirit, a probing inquisitiveness, a keenness of mind, a zealous dedication to reason, and a hunger or eagerness for reliable information which good critical thinkers possess but weak critical thinkers do not seem to have. As water strengthens a thirsty plant, the affective dispositions are necessary for the CT skills identified to take root and to flourish in students.
>
> RECOMMENDATION 4: Modeling that critical spirit, awakening and nurturing those attitudes in students, exciting those inclinations and attempting to determine objectively if they have become genuinely integrated with the high quality execution of CT skills are, for the majority of panelists, important instructional goals and legitimate targets for educational assessment. However, the experts harbor no illusions about the ease of designing appropriate instructional programs or assessment tools. (Facione, 1990, p. 11)

Dewey (1933) reinforced this by stressing the need to cultivate thinking characterized by "alertness, flexibility, and curiosity" rather than "dogmatism, rigidity, prejudice, caprice, arising from routine, passion or flippancy" (p. 52).

METACOGNITIVE CONSTRUCTS

Three constructs—self-reflection, self-regulation, and metacognition—are parallel components of, and perhaps precursors to, mindfulness. Self-reflection can be characterized as a purposeful pause with an eye towards analyzing some aspect of one's behavior, thinking, or feelings. In view of the nature of the primary task of the TAs in the present study, a brief discussion follows that examines reflection-in-action and its potential relationship to Teacher Concerns Theory. This is followed by a discussion of self-regulation, which can be characterized as the purposeful engagement of executive control under the auspices of metacognition. The discussion concludes with consideration of metacognition, or thinking about thinking.

Self-reflection

Reflection is defined as "a process of becoming aware of one's context, of the influence of societal and ideological constraints on previously taken-for-granted practices, and gaining control over the direction of these influences" (Calderhead, 1989, p. 44). Reflection offers an awareness of "distorted assumptions and meaning perspectives" (Cranton, 1994, p. 5), which can then be changed to "allow a more inclusive, discriminating, and integrative understanding of one's experience" (p. 4). Through the process of reflection, and awareness, one's actions and behaviors can be changed to coincide with the new perspective.

Reflection can also lead to a change in the way teachers conduct their teaching practices and their conceptual understanding of what it means to be a teacher: "Reflective teachers not only perceive and define problems and generate and apply solutions, they also use this process to modify and enhance their understanding of professional practice. As a result of confronting problems their practice is reconstructed" (Copeland, Birmingham, De La Cruz, & Lewin, 1993, p. 349). These authors went on to say that: "As a process, it is recursive. It is ongoing and operates at a multitude of levels in any given time frame" (p. 349). Also, according to Korthagen and Wubbels (1995) as cited by Griffiths (2000) teachers who continued to use reflection in their practice "…had better interpersonal relationships with pupils and colleagues than other teachers…developed a higher degree of job satisfaction and were less likely to experience 'burnout'" (p. 552).

While reflection can be an important component of effective teaching, the nature of reflection and the context in which reflection occurs may dictate its role in TA development. The construct of focus here is what Schön (1983; 1987) referred to as

"reflection-in-action", what Kreber (2005) referred to as "premise reflection" (p.351) and what Van Manen (1995) described as a "immediate 'reflective' awareness that characterizes, for example, the active and dynamic process of a class discussion" (p. 34). For the TA as discussion facilitator, this might be illustrated as successfully negotiating one's own thoughts, ideas, and verbalizations about a topic so as to integrate input from discussion participants.

According to Gero and Kannengiesser (2008), *self-reference*, the re-production of one's thoughts, and *change,* as those thoughts are modified and adapted, are components of the mechanistic view of reflection (p. 11). In this mechanistic model, previous experiences, or thoughts, are recalled, and then, as new ideas are introduced, the ideas or thoughts are modified. However, citing Suwa and colleagues (1999), Gero and Kannengiesser also spoke of the importance of socially-negotiated meaning, or what Lave & Wenger (1991) referred to as situatedness—a "paradigm that can account for the central role of Schön's *reflection-in-action*" (p. 3), and also account for how interactions affect both product and experience—a functional view of reflection. The way in which discussion TAs think, and then process and verbalize those thoughts, impacts the flow and outcomes of the discussion environment. By necessity, discussion TAs, situated as facilitators of communication, must negotiate their thoughts while navigating the overall discussion in a manner that optimizes learning for all participants, including themselves.

The abilities to consider multiple perspectives, to consider learning needs, to consider the learner's perspective, and, moreover, to reflect on those processes are critical components of instructional growth (Atkinson & Cody, 2006; Hatton & Smith, 1994; Kreber, 2005). As Kreber maintained, "When the learner and learning are seen at the

centre of the teaching process, instructors are more inclined to engage in the reflective process associated with pedagogical knowledge" (2005, p. 353).

As shown in the Table 2.1, Smith and Hatton (1994a, 1994b) provided an integrated examination of the types of reflection, the nature of reflection, and the possible content associated with each type. In so doing, they juxtapose Fuller's Teacher Concerns Theory with Schön's reflection models, and with Valli's (1992) work—among others—on reflective teacher education, as well as with their own work on reflection. They proposed 5 stages of reflection in teacher development (contextualization of multiple viewpoints, critical, dialogic, descriptive, and technical) compared to the three-stage model (self, task, and impact) offered by Fuller (1969).

Table 2.1 Types of Reflection Related to Concerns

[2]Types of Reflection Related to Concerns (Fuller, 1970; Valli, 1992; Smith & Hatton, 1993		
Reflection Type	**Nature of Reflection**	**Possible Content**
"**Reflection-in-action**" (Schön, 1983; 1987) addressing the IMPACT concerns after some experience in the profession	5 **Contextualization of multiple viewpoints** drawing on any possibilities 1-4 below applied to situations as they are actually taking place	Dealing with on-the-spot professional problems as they arise, (thinking can be recalled and then shared with others later)
"**Reflection-on-action**" (Schön, 1983; Smith & Lovat, 1990; Smith & Hatton, 1992, 1993) addressing TASK and IMPACT concerns in the later stages of a preservice program	4 **Critical** (social reconstructionist), seeing as problematic, according to ethical criteria, the goals and practice of one's profession	Thinking about the effects upon others of one's actions. Taking account of social, political and/or cultural forces (can be shared)
	3 **Dialogic** (deliberative, cognitive, narrative), weighing competing claims and viewpoints and then exploring alternative solutions	Hearing one's own voice (alone or with another) exploring alternative ways to solve problems in a professional situation
	2 **Descriptive** (social efficiency, developmental, personalistic), seeking what is seen as ' best possible' practice	Analysing one's performance in the professional role (probably alone), giving reasons for actions taken
Technical rationality (Schön, 1983; Shulman, 1988; Van Manen, 1977), addressing SELF and TASK concerns early in a program that prepares individuals for entry into a profession	1 **Technical** (decision-making about immediate behavior or skills), drawn from a given research/theory base, but always interpreted in light of personal worries and previous experience	Beginning to examine (usually with peers) one's use of essential skills or generic competencies as often applied in controlled, small scale settings

([2]Hatton & Smith, 1994a, p.18)

Of particular interest is the supposition reflected in the table that a teacher must, from the perspective of teacher concerns theory, be in the *impact* stage – what Schön refers to as the "reflection-in-action" stage – in order to effectively consider multiple perspectives and deal with in-the-spot professional issues. The student-learning focused discussion facilitator must not only consider multiple perspectives but also coherently synthesize them in a manner that takes into account contextual goals while respecting divergent viewpoints. It should be the nature of discussion, and optimal learning, to

intellectually challenge pedagogical content, the discussion process, and the related content and process premises held by the instructor and by the student participants.

Some of the teaching assistants in the present study may have been engaging in the practice of mindfulness—a construct that arguably could encourage the development of a robust *self*-stage as it relates to teacher concerns. And, it may be, that this initial, well-grounded, self-focus, perhaps engendered by mindfulness practices, may more assuredly and competently move one towards the ultimate orientation for an instructor—an *impact*-focus. According to Schunk and Zimmerman (1997), "Self-reflection may facilitate explicit use of self-regulatory processes in interpreting enactive mastery pieces and hence enhance self-efficacy" (as cited in Labone, 2004, p. 346).

Self-regulation

As previously noted, self-regulation is closely related to self-reflection. "Schunk (2001) defined self-regulated learning as "learning that results from students' self-generated thoughts and behaviors that are systematically oriented towards the attainment of other learning goals'" (as cited in Muis, 2007, p.173). Muis further proposed an integrated model of self-regulated learning with four components, or phases: task definition, planning and goal setting, enactment, and evaluation. In her model, she integrates these four phases with context, motivational facets and epistemic beliefs. (See Figure 2.4.)

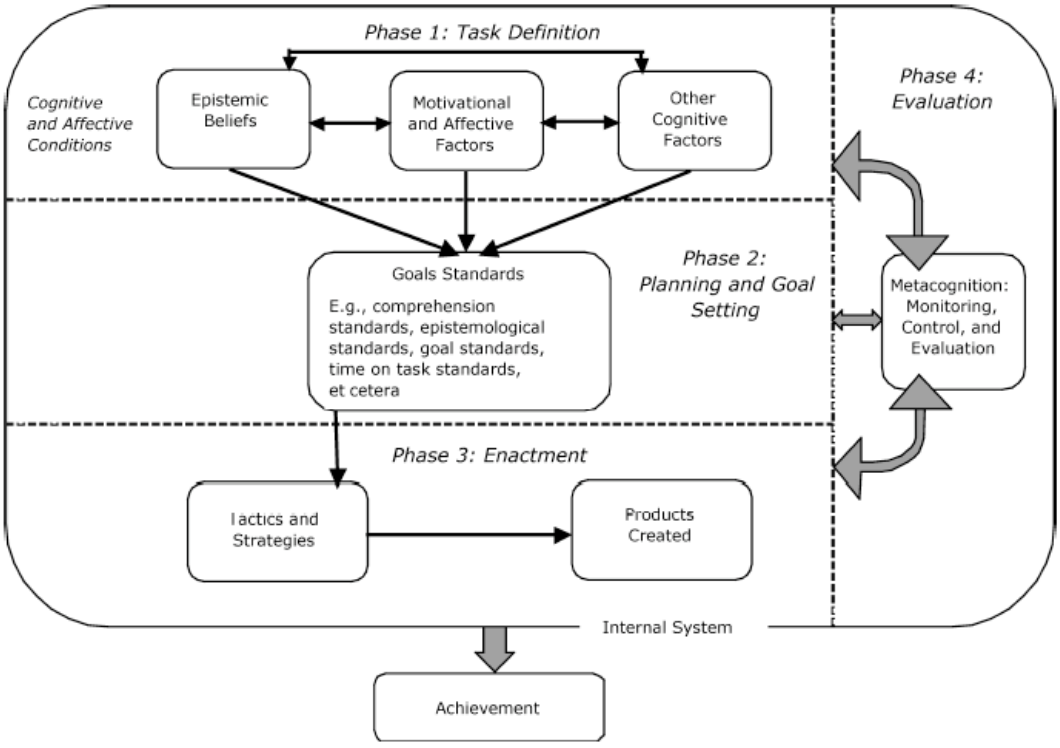


Figure 2.4. An integrated model of epistemic beliefs and self-regulated learning. (Muis, 2007, p.177)

One of the key components of the model is "that epistemic beliefs serve as inputs to metacognitive processes. Specifically, during learning, students set epistemological standards that influence the extent to which they engage in metacognitive processing" (p. 183). The interactive, or reciprocal, nature of the proposed model serves to dictate the extent to which metacognitive processes may be in play. As one moves through the process, a determination may be made that more careful planning, buttressed by metacognitive awareness, may be necessary in order to achieve a specific goal. In turn, epistemic beliefs may change, or be changed by, the self-regulated learning process (Muis, 2007).

Schunk and Zimmerman (2003), without referencing epistemic beliefs, proposed a Social Cognitive Model (see Table 2.2) for the development of self-regulatory competence. In their model, "self-regulation develops initially from social sources and shifts to self sources in a series of levels" (p.64).

Table 2.2 Social Cognitive Model of the Development of Self-Regulatory Competence

Level of Development	Social Influences	Self Influences
Observational	Models Verbal description	
Emulative	Social guidance Feedback	
Self-controlled		Internal standards Self-reinforcement
Self-regulated		Self-regulatory processes Self-efficacy beliefs

(Schunk & Zimmerman, 2003, p.64)

It is critical to note, however, that this "is not a stage model and learners may not necessarily progress in this fashion" (p. 64). For the present study, the Schunk and Zimmerman *self-regulated* developmental level, which impacts self-regulatory processes and self-efficacy beliefs, is noteworthy. Zimmerman (2002), in an earlier overview, defined self-regulation as a three-phase, self-directed process oriented to attaining goals at the *forethought phase*, monitored to determine strategy effectiveness at the *performance phase,* and then judged and evaluated via self-reflection at the *self-reflective phase*. Pintrich (1995) similarly, found three dimensions to self-regulated learning: first, he contended that self-regulated learners *attempt to control* their behavior, motivation and affect, and their cognitions; second, the learner must have a *goal* in mind, which would used to judge and monitor performance; and third, the learner exhibits *self-control* of their behavior (p. 5).

A key difference between the Muis (2007) and Schunk (2003), the Schunk and Zimmerman (2003), the Zimmerman (2002) and the Pintrich (1995) models is that Muis emphasized the role of epistemic beliefs in self-regulation. In part, this may be due to Muis' integrated approach which subsumed the others' goal-oriented models, while including a metacognitive-focus. Hofer (2004) and Muis (2007) proposed that one's epistemic beliefs are a key component of one's metacognition, and related to both affective and cognitive task components, which help dictate the "thoroughness, completeness and legitimacy of our knowledge" (Hofer, 2004, p. 43). It may be that a teaching assistant's metacognition about their own thoughts, actions, and behaviors can be mediated by means of a mindfulness construct. It may encourage them to examine pre-existing knowledge about their own knowledge, enabling them to become more effective discussion facilitators. Ryan and Brown (2003) said "in healthy self regulation the person is focused on not only what others approve of, but also on one's abiding values, pressing needs and true demands of the situation" (p. 75). In fact, Paris and Winograd (1999) asserted "part of becoming self-regulated involves awareness of effective thinking and analyses of one's own thinking habits," a concept referred to by Flavell (1978) and Brown (1978) as "metacognition, or thinking about thinking" (cited in Paris & Winograd, 1999, p. 5). Similarly, Halpern (1999) refers to the executive function of directing one's thinking—the use of knowledge to direct and improve the thinking and learning process—as metacognitive monitoring (p. 73).

Key to the development of critical thinking competencies is meta-knowing, or metacognition, the management or executive control related to one's "knowing about one's own (or others') knowing" (Kuhn, 1999, p. 17). Kuhn (1999; 2000) and Kuhn and Dean (2004) contended that critical thinking, at its fullest, is a level of epistemological

understanding that accepts uncertainty, is evaluative in nature and which uses critical thinking to promote sound thinking and enhance understanding while coordinating objective and subjective components of knowing. In other words, metacognitive and metastrategic processes—the effective learning processes deliberatively employed from one's collection of options—along with the development of epistemological understanding, *regulate* knowledge acquisition and encourage the use of critical thinking to optimize learning.

However, whether learning-oriented or not, the barriers and constraints tied to language must, in order for one to (be)come engaged in the "pre-scientific" construct of mindfulness, also be confronted and disavowed, perhaps through meditation practices (Hayes & Shenk, 2004, p. 253). The acceptance of uncertainty in the present moment is a situated action—a practice, a mindfulness process—that at its best is unencumbered by language. This apparent conundrum, grounded to an acceptance of uncertainty, is echoed in Galea's (2012) consideration of the need to wrench away from standard methods of reflection in order to truly begin thinking critically. It also highlights the challenge presented by the relational nature of language—with its tendency to tie us to the shore.

Metacognition

In yet another iteration, Flavell (1985) referred to metacognition as "the deliberate conscious control of cognitive activity" (as cited in Schunk & Zimmerman, 2006, p. 360). About metacognition, Fisher (2007) contended, "There has been a growing recognition that metacognition or self-awareness, including awareness of ourselves as learners, helps us to learn more effectively" (p. 628). He said further, "[Metacognition] refers to that uniquely human capacity of people to be self-reflexive, not just to think and know but to think about their own thinking and knowing" (Fisher, 2007, p. 360).

Furthermore, Flavell (1979) referred to two types of metacognition—*knowledge* and *experience* (as cited in Georghiades, 2004; McCormick, 2003; Teasdale, 1999; Dunlosky & Metcalfe, 2009). Metacognitive *knowledge* refers to cognitive matters—"person variables (knowledge concerning what human beings are like as cognitive organisms), task variables (referring to knowledge about how the specific information encountered affects and constraints the way in which one deals with it) and strategy variables (knowledge about cognitive strategies or procedures for achieving various goals)" (Georghiades, 2004, p. 372). Metacognitive *experiences* are defined as "any conscious cognitive or affective experiences that accompany or pertain to any intellectual enterprise" (Teasdale, 1999, p. 147).

Hertzog and Dixon (1996), on the other hand, viewed these metacognitive types as *stored*—"representations or information held in long-term memory either in the form of knowledge or beliefs"—or *concurrent*—"information generated by and associated with the act of cognising" (as cited by Georghiades, 2004, p. 373). For the purposes of the present study, references to metacognition include both metacognitive *knowledge* and metacognitive *experiences* unless otherwise indicated.

The perspective provided by McCormick (2003) is also helpful. She contended that "cognitive skills facilitate task achievement and metacognitive skills help to regulate task achievement" (p. 81). However, in direct contrast to this contention, McCormick referenced Zimmerman (1995), who said that "self-regulation involves more than metacognitive knowledge and skill; it involves an underlying sense of self-efficacy and personal agency… to put these self beliefs into effect" (as cited by McCormick, 2003, p. 81). Schunk and Zimmerman (2006), continued in this vein:

> As with self-regulation, competence and control beliefs come into play during metacognitive activities, but metacognition includes other processes. Learners who feel more self-efficacious about learning do so because they believe that they possess the skills and strategies needed to learn. Likewise, the belief that one can exercise control over one's cognitive activity is critical, but simply possessing that belief will not produce effective metacognition without the requisite knowledge, skills, and strategies. (p. 361)

A TEACHER'S SENSE OF EFFICACY

Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) defined teacher efficacy as "the teacher's belief in her and his ability to organize and execute the courses of action required to successfully accomplish a specific teaching task in a particular context" (as cited in Woolfolk Hoy, Davis, & Pape, 2006, p. 727). Dunlosky and Metcalfe (2009), highlighting the importance of self-efficacy, noted that "self-regulated learning is largely a goal-directed endeavor," and they assert "students' perceptions about whether they can successfully achieve those goals can be just as influential on their performance as their actual abilities" (pp. 204-205). Schunk (1990) notes that students determine their level of self-efficacy within a given setting and, after cognitive appraisal, make inferences about personal and situational factors, including effort and task difficulty, and if they are motivated and believe they can learn a task, expend greater effort and more time to solve a task (p. 74). Korinek, Howard, and Bridges (1999), in a study of TA training, noted that successful discussion facilitation experiences, coupled with skills training, led to an increase in students' self-confidence, which in turn led to an increase in self-efficacy (p. 353).

Such findings suggest that teacher self-efficacy consists of a belief that one can teach within a certain known context. Such a belief may positively impact teaching

success, and training and experience may positively impact one's teaching self-efficacy. Teaching assistants who receive formal training display higher levels of self-efficacy than those who receive no training. Of particular interest is that Poulin et al. (2008) found significant improvement in the Teacher's Sense of Efficacy Sub-scale—Student Engagement—post-MBWE (*wellness wheel*) training. In addition, a follow-up study showed better retention of overall teaching self-efficacy among those who participated in the MBWE program compared to those in the control group (Poulin, 2009). These findings could be important to keep in mind, especially if one decides to develop a mindfulness-based teacher development program designed to support teaching assistants assigned to engage students in the discussion classroom. Of course, training coupled with supervision and teaching experience has an even greater positive impact on self-efficacy levels (Park, 2004; Prieto & Altmaier, 1994; Prieto & Meyers, 1999). Again, the purpose of this study was to discover whether a teacher's sense of efficacy, along the other factors, is a predictor of a positive student evaluations of the interpersonal part of teaching.

TEACHER CONCERNS

Teacher Concerns Theory, and its associated Teacher Concerns Checklist, was initially conceived after an analysis of pre-service and in-service teacher research (Fuller, 1969). The theory is manifest in a three-stage model of teacher development.

> [It] conceptualizes the learning process for a prospective teacher as a natural flow from concerns for self (teacher) to task (teaching) to impact (pupil). The physical, mental and emotional states of the prospective teacher play an important role in this shift of focus from self to task to impact. The lack of adequate knowledge or emotional support during the critical preteaching and student teaching periods can result in a slower, more labored shift of focus to task. This, in turn, can result in failure on the part of the teacher to reach a concern for his or her impact on students. (Borich & Tombari, 1997, p. 13)

Table 2.3 below presents statements from the Teacher Concerns Checklist categorized by the area of concern they address, putting into context typical teacher anxieties.

Table 2.3. Teacher Concerns Checklist

Survey Statements (with survey numbering) Categorized by Stages		
Self Concern	**Task Concern**	**Impact Concern**
2. Whether the students respect me.	1. Having insufficient clerical help	5. Helping students to value learning.
4. Doing well when I'm observed.	3. Too many extra duties & responsibilities.	15. Increasing students' feelings of accomplishment.
8. Managing my time efficiently.	6. Insufficient time for rest & class preparation.	17. Diagnosing student learning problems.
9. Losing the respect of my peers.	7. Not enough assistance from specialized teachers.	19. Whether each student is reaching his or her potential.
13. My ability to prepare adequate lesson plans.	10. Not enough time for grading & testing.	22. Recognizing the social and emotional needs of students.
14. Having my inadequacies become known to other teachers.	11. The inflexibility of the curriculum.	23. Challenging unmotivated students.
18. What the principal might think if there is too much noise in the classroom.	12. Too many standards and regulations set for teachers.	29. Understanding why certain students make slow progress.
20. Obtaining a favorable evaluation of my teaching.	16. The rigid instructional routine.	34. Understanding ways in which student health and nutrition problems can affect learning.
24. Losing the respect of my students.	21. Having too many students in a class.	36. Meeting the needs of different kinds of students.
26. My ability to maintain the appropriate degree of classroom control.	25. Lack of public support for schools.	37. Seeking alternative ways to ensure that students learn subject matter.

Table 2.3 (continued)

28. Getting students to behave.	27. Not having sufficient time to plan.	38. Understanding the psychological and cultural differences that can affect my students' behavior.
30. Having an embarrassing incident occur in my classroom for which I might be judged responsible.	31. Not being able to cope with troublemakers in my classes.	39. Adapting myself to the needs of different students.
32. That my peers may think I'm not doing an adequate job.	33. My ability to work with disruptive students.	41. Guiding students toward intellectual and emotional growth.
35. Appearing competent (to parents).	40. The large number of administrative interruptions.	43. Whether students can apply what they learn.
44. Teaching effectively when another teacher is present.	42. Working with too many students each day.	45. Understanding what factors motivate students to learn.

(Fuller, 1969; Borich, 1993, pp. 101-103)

Subsequent studies questioned the chronological nature of teacher development proposed by the Fuller study. In particular, several researchers have suggested that *impact* concerns can occur at any stage (Borich, 1993; Campbell & Thompson, 2007; Watzke, 2007). However, there is some evidence that the transition from *self* concerns to *task* concerns is indeed chronological (Watzke, 2007, p. 108) and that *self* concerns are a primary focus, especially for new teachers (Piggf & Marso, 1981). In addition, McCulloch and Thompson (1981) contended that "early training will be less effective if instructors attempt to teach students how to have *impact* when students are in fact interpreting content with a view towards resolving conflicts about *self*" (p. 6).

Borich (1993) explained that some new teachers arrive in the classroom with "a well-developed response mechanism that is delivering creative and unique responses to fit students' learning needs" (p. 103). These new teachers have "learned the value of

playfulness, concentration, flow, and their own affect and how to use them in a decision-making setting. Once these are put into practice, concerns for survival and the teaching task become less influential in directing their behavior. They are able to shut off the judgmental observations of Self without destroying the content it can provide" (p. 104).

Other studies suggest that new teachers may have more than the three concerns suggested by Fuller (1969). For instance, Schipull, Reeves, and Kazelskis (1995) contend that the Teacher Concerns Checklist (TCCL) originally yielded five scales and that George's (1978) subsequent factor analysis, which yielded 11 factors, was constrained by George's primary interest in the 3-factor—self, task & impact—model posited by Fuller (1969). In their study of 568 in-service teachers, Schipull et al. (1995) found teachers were also concerned about Student Acceptance, Professional Freedom, Student problems, Classroom Behavior, Professional Ability, School Climate and Instructional Materials, in addition to Self, Task, and Impact concerns. They suggest that the varied population in his study, which was comprised of preservice teachers, in-service teachers, and principals, may have skewed George's factor analysis of the TCCL. Capel (2001) also expresses some reservations with the TCQ, reinforcing Schipull's point that the development of concerns is not necessarily sequential—that one may, for instance, have an *impact* focus even as a relatively new teacher.

In the Cho et al. (2011) study, which was an exploration of the conceptual structure of graduate teaching assistants, teacher efficacy was found to be a strong predictor of *impact* (student learning) concerns—($\beta = 0.32$, $p = < 0.05$). Another study (Kim et al., 2011), also used the long version of the Teacher Sense of Efficacy Scale (TSES) and examined the relationship between the TSES subscales (e.g., classroom management, student engagement, and instructional strategies) and the self, task, and

impact variables of a modified version of the Fuller's Teacher Concerns Checklist. Results indicated that teacher efficacy for classroom management was negatively related to *self* concern ($r = -0.37$, $p < 0.01$), and efficacy for engaging students and efficacy for instructional strategies were both positively related to *task* concerns ($r = 0.18$, $p < 0.05$; $r = -0.23$, $p < 0.01$, respectively).

One goal of the present study was to determine the degree such a mindset—having a belief that one can effectively engage in the teaching process with a focus on *impact*—will translate to TA's perceived openness. This study may also help in resolving some issues with the Teacher Concern's Checklist. Reeves and Kazelskis (1985) noted that they and George (1978) found higher than expected *impact* concern considering that the original model as put forth by Fuller (1969) suggested that the Teacher Concerns model is developmental—that *self* concerns should generally precede *task* concerns and then be followed by *impact* concerns as a teacher gains classroom experience. This study, since its focus is solely on the *impact* concern factor of the model, allows for a more granular analysis of the characteristics of TAs who have an *impact* orientation.

SELF-COMPASSION

Seemingly critical to the non-judgmental aspect of mindfulness is the construct of self-compassion. As one begins mindfulness practice with its likely shift in awareness, welcoming and aversive thoughts about oneself or about one's station in life may occur as part of an awakening process. If so, it seems important that those thoughts be couched in kindness and care towards oneself. In her definition, Neff (Neff, 2003a; Neff, 2003b) proposes that self-compassion is comprised of three factors: self-kindness, common humanity, and mindfulness. This may suggest that self-compassion mediates one's

mindfulness, promoting a shift towards experiencing life's ephemeral moments with kindness towards oneself and others, similar to the concomitant way in which Garland's mindful coping is guided by positive reappraisal (Garland et al., 2009; Garland et al., 2010; Garland et al., 2011). From an educational perspective, it appears to encourage a mastery goal orientation, because of its implied focus on the joy of learning (Neff, 2003a). A performance orientation, on the other hand—perhaps associated with a fear of failure—might trigger self-condemnation or a negative self-judgment. Mindfulness, then, implies an observation and acknowledgment of thoughts and feelings into consciousness from a non-judgmental *and* self-compassionate orientation (Gilbert and Tirch, 2009, p. 107)—a perspective that one can develop and nurture.

Not only has self-compassion been shown to be linked to adaptive psychological functioning (Neff, Kirkpatrick, & Rude, 2007), it has also been shown to be a significant predictor of students' well being (Neely, Schallert, Mohammed, Roberts, & Chen, 2009). In addition, persons possessing high levels of self-compassion have been found to be more accepting of their own undesirable attributes without allowing that acceptance to impact them negatively. Moreover, they have tended to be less reactive to negative external evaluations, which may be due to their ability to think about those events in a way that reduces their impact. In fact, persons who are self-compassionate tend to have thoughts that reflect "self-kindness, common humanity and mindful acceptance" (Leary, Tate, Adams, Allen, & Hancock, 2007, pp. 901-902).

Self-compassion also has a direct relationship to "feelings of compassion and concern for others" (Neff, 2003b, p. 224), which should facilitate a new teacher's transition from a *self*-concern focus to an *impact*-concern, or student-learning orientation. Additionally, it is "linked to a happier, more optimistic mindset, and appears to facilitate

the ability to grow, explore, and wisely understand oneself and others" (Neff, Rude, & Kirkpatrick, 2007, p. 914). Considering the potential pitfalls for new TAs just beginning to appreciate their responsibility for a shared learning process with their discussion students, this more inclusive way of experiencing challenges could help these discussion leaders develop critical strengths that will facilitate their growth as student-focused and compassionately self-aware instructors.

Leary et al. (2007) outline three reasons why self-compassion moderates the kinds of stressors (e.g., failure, rejection, embarrassment, and other negative events) that could be experienced by a developing TA. First, they suggest that self-compassionate people judge themselves less harshly than those lower in self-compassion. In addition, their self-reflection tended to focus more on actual performance, and their self-analyses, as well as their performance evaluations, were more accurate than those who were less self-compassionate. Second, high self-compassion translates into "lower reactivity to external events" (p. 901); when it comes to self-evaluations, there is lessened tendency to focus on *outcomes*. Third, the cognitions for highly self-compassionate people tend to reduce the impact of negative events—their thoughts "reflected self-kindness, common humanity and mindful acceptance" (p. 902).

Neff details the three components of self-compassion as follows:

a. Self-kindness—being kind and understanding toward oneself in instances of pain or failure rather than being harshly critical,

b. Common humanity—perceiving one's experiences as part of the larger human experience rather than seeing them as separating and isolating, and

c. Mindfulness—holding painful thoughts and feelings in balanced awareness rather than over-identifying with them. (2003a, p. 85)

Mindfulness training may be a *technique* that could be used to help increase one's self-compassion (Neff, Kirkpatrick, & Rude, 2007). Self-compassion's inter-relationship with mindfulness depends on "*open* or *receptive* attention to and awareness of ongoing events and experiences" (Brown & Ryan, 2004, p.245). The quality of this attention, it could be argued, mirrors the *openness* often displayed by the best discussion facilitators towards their students' questions. In its simplest form, mindfulness-based training for educators could include what Brown (1978), writing about metacognition, refers to as "simple checking skills" (p. 158) to ensure the engagement of the executive or metacognitive processes—"predicting, planning, checking, and monitoring" (p. 157). If so, and if a desired outcome of this training is that a teaching assistant becomes more oriented towards students' learning, then it seems that an enthusiastic embrace of self-compassion may help enable and guide those skills. Tirch (2010), in fact, sees self-compassion and mindfulness as co-creating each other, with mindfulness providing the "context for compassion-focused approaches" (p. 114).

THE LEGITIMATE ZONE OF MINDFULNESS PRACTICE

A teaching assistant, much like an apprentice engaged in Lave and Wenger's (1991) "situated learning," is identity-less; there is an opportunity for the TA to transform, to set aside factual knowledge and become enmeshed in a "comprehensive understanding involving the whole world," not just that which is considered factual knowledge, but "on activity in and with the world, and on the view that agent, activity, and the world mutually constitute each other" (Lave & Wenger, 1991, p. 33). The sense

of disassociating learning from pedagogical intention and allowing the differences, the "conflicts and mismatches" to "become constitutive of learning" (Lave & Wenger, 1991, p. 114) is similar to Vygotsky's (1978) Zone of Proximal Development (ZPD), which is contingent upon internalized developmental transformations. These purposeful detachments from knowledge per se echo Galea's (2012) call to separate from one's normative reflective mechanisms in order to truly think critically. They also seem to support Van Manen's (1991) contention that pedagogical tact requires distance from reflection. There is also, in Schön's (1987) "reflection-in-action," a sense that the immediacy of engagement can limit one's access to their pedagogical thinking repertoire. These transformations begin with a reconstruction of interpersonal operations that initially appear external, but revert into intrapersonal processes that become series of developmental events (Vygotsky, 1978). These descriptions—of *situated learning* not bound by *facts*, but rather de-centered; and, of a *zone of proximal development* not hindered by solutions, but instead engendered by prospective—parallel the elements purported to effect change within mindfulness practice—an acceptance of the impermanence of self, supported by the tempering of the internal dialog that had been grounded in previous self-knowledge.

The conceptualization of Vygotsky's (1978) intra-individual skills as having origins in interindividual activity (as cited by Greenfield, 1999, p. 117), and the "legitimate peripheral participation" of Lave & Wenger (1991) support the common humanity component of self-compassion, which tends towards an acceptance of a "larger human experience" (Neff, 2003a, p. 85). In contrast, a *self* that is dependent on elaborative linguistic codes tends to reduce "social solidarity," while promoting separation (White & Siegel, 1999, p. 275). I contend that mindfulness practice may

encourage the development and use of what White and Siegel refer to as "restricted codes" (1999, p. 274), those signals used to reference the immediate and obvious world, known, in mindfulness terms, as *the present moment* or *the here and now*. On the other hand, the use of the elaborated code, much like the rumination in depressed populations, encourages a centering that gives too much weight to linguistically oriented internalizations about our selves, and our thoughts and feelings, which we tend to classify as facts.

However, when information is being pre-consciously acquired, before it is known, there is a resistance to factual knowledge (Vygotsky, 1978). The nature of that resistance may serve to ensure continued human growth; and, mindfulness practice may enable the process that provides unfettered access to that zone, that periphery, where information, in its nascent form, may be considered, yet not necessarily acquired. Mindfulness may promote a sense of impending epiphany that may echo the processes associated with situated learning and the zone of proximal development—learning not yet formed, or informed, but rather anticipated and welcomed.

Although we may see ourselves as single cells upon the world, and although we may have our own imagined roles and responsibilities, we also co-exist in this space with a wide-varying range of other cells, with other people, and with other possibilities of experiencing social context. The purposeful escape from the narrow confines of language, with its fictionalized sense of self, empowers and is empowered by mindfulness. Through mindfulness, we are afforded a space to nurture possibilities of ourselves unburdened by cognitive narratives. We are able, through mindfulness, to potentiate a sense of self as an unfolding process open to discovery and bounded by wonder.

WHY THESE CONSTRUCTS

These constructs—trait mindfulness, mindfulness practice, teacher's sense of efficacy, self-compassion & teacher *impact* concerns, all touch on one's ability to pause and, at least briefly, consider the mind's processes: the cognitions; metacognitions; emotions: the self-regulatory skills and practices; the meta-strategies; the nature of the self; teaching efficacy; and thinking tendencies. Attention, or some derivative, may be the one underlying process embedded in each of these other processes. Csikszentmihalyi (1990) referred to attention as "psychic energy"—noting that without it no work can be done, and that it is how we create ourselves and shape our memories, thoughts, and feelings (p.33). William James (1890), on attention, noted: "Each of us literally chooses, by his way of attending to things, what sort of universe he shall appear to himself to inhabit" (p. 424). He goes on to say that "the immediate effects of attention are to make us: perceive, conceive, distinguish, and remember better than otherwise we could—both more successive things and each thing more clearly. It also shortens reaction-time" (pp. 424-425).

It might also be helpful to consider mindfulness as a way to still the mind. New teachers beginning the process of pedagogically engaging others might be at particular risk of dwelling on perceived errors simply because of their newness. Mindfulness training for new teachers could facilitate a self-reflective, self-regulating, self-sensing, and measured approach to realizing the art and science of the teaching process. Learning to gently quiet one's fears and concerns, with an eye towards exploring collaborative learning in the discussion classroom, may be a way to provide the safe internal space needed to undertake the craft of student-focused learning. Mindfulness-based training may be the means to access and nurture that space. Self-compassionately, one could learn

to let go of detracting internalized data, ease into calmer engagement with the process, and develop a healthier sense-of-self as becoming a teacher. Engagement in the process of mindfulness, of an attentive awareness of one's essence as learning-teacher and the consideration of the language used to describe the practice of becoming-teacher, may foster more effective engagement in the teaching process for teacher and student. Eventually, as competence is properly considered and assessed, new teachers might develop accurate beliefs about their place in that process.

The research questions derived from the above discussion and driving the current study were:

Research question 1: Which of the variables—trait mindfulness, mindfulness practice, teacher's sense of efficacy, self-compassion and teacher *impact* concerns—are good predictors of positive responses on the CIS measures of teaching qualities of kindness, patience and receptiveness?

Research question 2: Do those TAs that receive higher CIS scores described above practice mindfulness?

Research question 3: If TAs do practice mindfulness, in what way and how frequently?

Research question 4: How do the TAs' metacognitions related to their classroom mindfulness practices inform their discussion facilitation?

Chapter 3: Method

Purpose of The Current Study

The purpose of this study was to explore the relationship between five Teaching Assistant (TA) variables—trait mindfulness, mindfulness practice, teacher's sense of efficacy, self-compassion, and teacher impact concerns—and their students' reporting of their perceptions of the TA's teaching qualities of kindness, patience, and receptiveness, based on the combined score of three questions from The University of Texas at Austin Course Instructor Survey Form 50—the Teaching Assistant Form.

Specifically, the study attempted to determine the degree to which each variable was predictive of positive scores (i.e., Agree and Strongly Agree) when their students are asked about their teaching assistant's kindness, patience, and receptiveness.

Research Questions, Hypotheses, Rationales

The following research question and related hypotheses were explored with regard to the purposes stated above:

Research Question 1

Which of the variables—trait mindfulness, mindfulness practice, teacher's sense of efficacy, self-compassion and teacher *impact* concerns—were good predictors of positive responses on the CIS measures of teaching qualities of kindness, patience and receptiveness?

Using a regression analysis to determine the predictive values of the variables, the study explored the overall comparative question as stated along with the following hypotheses:

Hypothesis 1

Self-compassion would be a strong predictor of positive student responses on the targeted Teaching Assistant Form 50 items—the teaching qualities of kindness, patience and receptiveness.

Rationale 1

Self-compassion was predicted to serve as a strong predictor of positive *CIS* scores due, in part, to its positive association with emotional well-being. Specifically, self-compassion is associated with greater emotional intelligence (Neff, 2003b; Neff, Rude, & Kirkpatrick, 2007), and less rumination and thought suppression (Neff, 2003b; Neff, Kirkpatrick, & Rude, 2007). Of particular note is that self-compassion has a positive association with intrinsic motivation and a negative association with anxiety (Neff, Hseih, & Dejitthirat, 2005)—an important point when considering the task of teaching assistants working on their own in their discussion sections.

In addition, in a study that examined the predictive capacity of the Self-Compassion Scale (SCS) with the Mindfulness Attention Awareness Scale (MAAS), the SCS was found to be "a more robust predictor of depressive and anxious symptomatology and quality of life than 'dispositional' mindfulness (as measured by the MAAS)" (Van Dam, Sheppard, Forsyth, & Earleywine, 2011, p. 127). In the Van Dam et al., study the MAAS was a unique predictor of only 1 to 3% of the following outcomes variables—anxiety, depression, worry, and quality of life (as measured by the Beck Anxiety Inventory, the Beck Depression Inventory, the Penn State Worry Questionnaire and the Quality of Life Inventory, respectively). However, the SCS accounted for between 10 to 27% of the same outcome variables.

Baer, Lykins, and Peters (2012), in a similar study, which compared the FFMQ

and the SCS, also found that the SCS was a stronger predictor of Psychological Wellbeing (PWB). Using total scores from each scale, the "partial correlation between mindfulness and wellbeing, controlling for self-compassion, was 0.27 ($p < 0.001$). The partial correlation between self-compassion and wellbeing, controlling for mindfulness, was 0.44 ($p < 0.001$)" (p. 234).

Hypothesis 2

A teaching assistant's positive trait mindfulness would predict positive student responses on the targeted Teaching Assistant Form 50 items—the teaching qualities of kindness, patience and receptiveness.

Rationale 2

The facets that comprise mindfulness as measured by the FFMQ are: *acting with awareness*—attending to the activities of the moment, *nonreactivity to inner experience*—tendency to allow thoughts and feelings to come and go, *nonjudging of inner experience*—a non-evaluative stance towards cognitions and emotions, *observing*—noticing and attending to internal and external stimuli, and *describing*—labeling observed experiences with words (Baer, Walsh, & Lykins, 2009, p. 158). Much of what a teaching assistant charged with facilitating discussion must do involves realizing all of these facets. Of particular note is that the *observing* facet was shown to correlate positively (.42) with *openness to experience* in an examination of mindfulness facets and other constructs (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006, p. 41).

Hypothesis 3

Scores that indicate effective mindfulness practices would predict positive student responses on the Teaching Assistant Form 50 items—the teaching qualities of kindness, patience and receptiveness.

Rationale 3

Erisman and Roemer (2012) ran two regression analyses using The Quality of Life Inventory (QOLI) and the Subjective Happiness Scale (SHS) respectively as dependent variables in each analysis. After loading the FFMQ in the first step, the MPQ was entered in the second step. In both studies, they found that the FFMQ and MPQ emerged as significant independent predictors: QOLI—1st FFMQ $\Delta R^2 = 0.07$; 2nd MPQ $\Delta R^2 = 0.10$; SHS—1st FFMQ $\Delta R^2 = 0.17$; 2nd MPQ $\Delta R^2 = 0.07$ (Erisman & Roemer, 2012, p. 37). Because it appears that the MPQ measures a unique construct, it was evaluated to see if there was, as expected, a positive predictive relationship between *mindfulness practices* and positive student responses on the targeted Teaching Assistant Form 50 items—the teaching qualities of kindness, patience and receptiveness.

Hypothesis 4

A teacher's sense of efficacy score would moderately predict positive student responses on the targeted Teaching Assistant Form 50 items—the teaching qualities of kindness, patience and receptiveness.

Rationale 4

TSES scores have been shown to be significantly predictive of teacher performance ratings at the end of the year (Heneman, Kimball, & Milanowski, 2006, p. 14). Because teaching assistants are often new to instruction and may have little teaching

experience, if any, it seemed prudent to consider them as preservice teachers and do as is recommended for this population and treat the scale as a single factor (Duffin, French, & Patrick, 2012; Fives & Buehl, 2010; Tschannen-Moran & Hoy, 2001). According to Allinder (1994) teachers with high efficacy tended to reach end-of-year goals for students more often than counterparts with low degrees of efficacy. Also, those teachers with high teaching efficacy set goals that were more ambitious than those of teachers with low teaching efficacy. At question here was whether teaching assistants with a higher sense of teacher efficacy, who presumably set higher goals for their students given the expectation that they plan and organize their own discussion section, would also be, as hypothesized, rated more highly on the targeted Teaching Assistant Form 50 items—the teaching qualities of kindness, patience and receptiveness.

Hypothesis 5

Higher teacher impact concerns scores would predict positive student responses on the targeted Teaching Assistant Form 50 items—the teaching qualities of kindness, patience and receptiveness.

Rationale 5

Teaching assistants' impact concerns scores should, because of the implied teacher focus on student learning (Borich & Tomari, 1997; Fuller, 1969; Fuller & Borich, 2000; George, 1978), predict a positive score on the targeted Teaching Assistant Form 50 items—the teaching qualities of kindness, patience, and receptiveness. Inversely, lower impact scores could imply a focus on self- or task-concerns. Although these two components of the Teacher Concern Checklist were not measured for this study, it was possible that lower self-compassion and lower teachers' sense of efficacy scores would

also be evident for those teaching assistant that received lower scores on the targeted Teaching Assistant Form 50 items—the teaching qualities of kindness, patience and receptiveness.

Research questions 2-4 are included in the qualitative section of the study.

PARTICIPANTS

Participants were recruited from the pool of 120 teaching assistants who worked with the UGS 303 Signature Courses offered in fall 2012. Teaching assistants for these courses are generally graduate students from the same department as the instructor of record and are responsible for planning and executing course discussion sections. Each TA is responsible for three one hour-long discussion sessions per week with no more than 17 students per session. In part, these large format Signature Courses were chosen because the teaching assistants for them are the most likely course representatives to have face-to-face contact with the students. In early fall 2012, several requests for access to the teaching assistants were made to UGS. Days, or weeks after my requests, I would hear back from them, but never in the affirmative. That only ended upon the appointment of an Interim Dean. I then met with UGS and affiliated training staff. UGS distributed the survey, but response numbers remained low. The timing of the initial distribution likely played a significant role in keeping the numbers down, because the distribution date coincided with student holiday departures and the shooting at Sandy Hook, Dec. 14th,2012. The respondent numbers, nineteen (n = 19) who successfully completed the survey, six (n = 6) of whom participated in follow-up interviews, only jumped, doubled in fact, just prior to survey closing. That was after more entreaties and an increase in the gift card amounts from $50 to $100. In total, four gift cards were awarded, three to

survey respondents, and one to a member of the interviewee group; one person won twice.

An initial power analysis conducted by the G*Power Program was used to determine the appropriate sample size for the current study (Faul, Erdfelder, Lang, & Buchner, 2007). Based on these standards, the G*Power calculations with a power of .95, an alpha value of $\alpha = .05$, a sample size of 120, yielded an effect size of $f^2 = .18$. Using an F-test, effect sizes are classified as follows: $f^2 = .02$ is a small effect size; $f^2 = .15$ is medium; and, $f^2 = .35$ is a large effect size. Considering this, the effect size, assuming a possible sample size of 120, would be medium. (See Figure 2.5 below.)

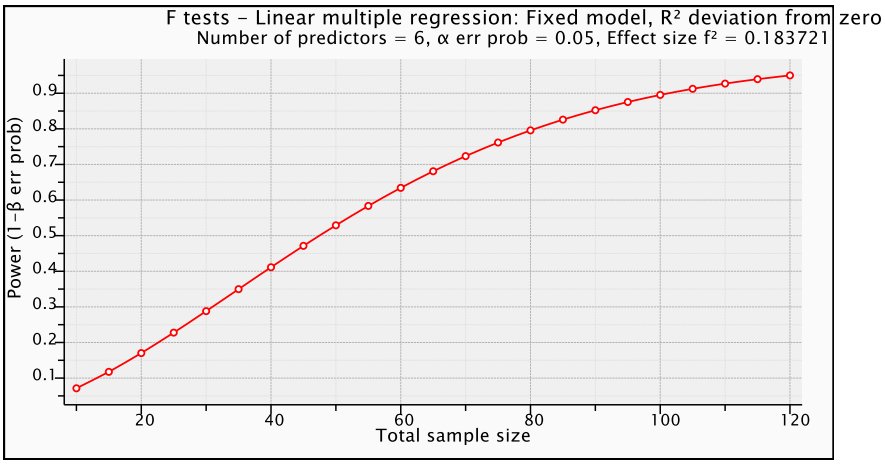


Figure 2.5. G*Power Analysis: F test—linear multiple regression assuming $\alpha = .05$, a sample size of 120 (Faul, Erdfelder, Lang, & Buchner, 2007).

However, due to the limited recruitment numbers, the study was redesigned as a linear regression analysis, since with only 19 cases, it would be difficult to accept any

significant findings, as the accepted rule of thumb for regression models is 15 to 20 cases per variable. A post hoc *t* test on a 1-factor simple regression, with an effect size of $r = .3$, and sample size of n = 19, shows that power would be $1\text{-}\beta = 0.37$, meaning any results could be difficult to distinguish from random chance.

MEASURES

Five Facet Mindfulness Questionnaire — *Trait Mindfulness*

The Five Facet Mindfulness Questionnaire—FFMQ (Baer et al. 2006) —was developed by assessing the factor structure of existing mindfulness measures. The FFMQ consists of 39 items that assess five different facets: non-reactivity (e.g., **"**I watch my feelings without getting lost in them**"**), observing (e.g., **"**I notice the smells and aromas of things**"**), acting with awareness (e.g., **"**I am easily distracted**"**), describing (e.g., **"**My natural tendency is to put my experience into words**"**), and nonjudging (e.g., **"**I disapprove of myself when I have irrational ideas**"**). Participants rated items using a 5-point Likert scale, which ranges from 1 (*never or very rarely true*) to 5 (*very often or always true*). Baer and colleagues demonstrated the construct validity of the FFMQ in meditating and nonmeditating samples, finding that all facets except *acting with awareness* were significantly correlated with meditation experience. In the same study, the remaining four mediators (*observing*, *describing, nonjudging, and nonreactivity*) were combined as part of a final regression analysis. Results supported the FFMQ's incremental validity in predicting psychological well-being in the full sample (meditators and nonmeditators) for the *describing, nonjudging, and nonreactivity* facets, with each accounting for significant variance in well-being ($\beta = .22$, .30, and .22, respectively, $p < .05$) (Baer et al., 2008). In this study, as also done by Erisman and Roemer (2011) in their

investigation of the process of mindfulness, the FFMQ subscales were combined and total scores were calculated as an indicator of overall trait mindfulness. (See Appendix A) The Cronbach's alpha for the present study was .92.

Mindfulness Process Questionnaire — *Mindfulness Practice*

The Mindfulness Process Questionnaire (MPQ) is an eight-item self-report measure developed by Erisman and Roemer (2012) to assesses the extent to which mindfulness is intentionally practiced/attempted and the ability to bring compassionate awareness to the present moment after noticing attention is elsewhere or that one's awareness has a judgmental quality. Items include "I intentionally try to be accepting of my thoughts and feelings as they occur" and "When I notice that I'm not engaged in the present moment, I can gently bring myself back." Participants respond using a 5-point Likert scale, ranging from 1 = *not at all characteristic of me* to 5 = *entirely characteristic of me*. In other words, Erisman and Roemer created the MPQ "to assess how often mindfulness is intentionally employed, and the frequency with which mindlessness is noticed and mindfulness is practiced in response to that observation" (p. 32). In one study of 410 students, they found that the MPQ accounted for significant and unique variance, beyond that attributed to the FFMQ, when predicting symptoms of depression and stress, distress about emotions, and difficulty regulating emotions, and quality of life and subjective happiness. (See Appendix B) When Erisman and Roemer used the 7-item version of their instrument, it consistently registered a Cronbach's alpha of .71 The Cronbach's alpha for the MPQ in the present study was .68.

Teachers' Sense of Efficacy Scale (Short Form) — *Teacher's Sense of Efficacy*

The Teacher's Sense of Efficacy Scale (TSES) was created to assess a teacher's beliefs about their ability to bring about desired student outcomes. There are two versions of the scale, a long-form—24 questions and a short-form—12 questions. Items included on the short form of the scale are: *How much do you think you can do to control disruptive behavior in the classroom?* and, *How much can you use a variety of assessment strategies?* Each item is rated along a continuum, from *Nothing* to *A great deal*. Although optimally measured with the factors—student engagement, instructional strategies, and classroom management—considered separately, with preservice teachers it is recommended that the scale be treated as a single factor (Tschannen-Moran & Hoy, 2001; Fives & Buehl, 2010). The reliabilities for the three factors are high: 0.86 for instruction, 0.86 for management, and 0.81 for engagement. For the short form of the scale, the one used in this study, the reliability was .90. Furthermore, the intercorrelations between the short and long forms for the total scale and the three subscales were high, ranging from 0.95 to 0.98 (Tschannen-Moran & Hoy, 2001). Reliability for this study, which also used the short form, was .46, significantly less robust than suggested by the literature.

In a validation study of the Teachers' Sense of Efficacy Scale (TSES), Heneman, Kimball and Milanowski (2006) found similar coefficient alphas for the subscales and total scores, ranging from .75 to .90. They went on to find that the TSES could be used as a predictor of teacher performance ratings at the end of the school year. (See Appendix D)

Self-Compassion Scale (Short Form) — *Self-compassion*

The Self-Compassion Scale-SCS (Neff, 2003b) was developed to measure the way in which people are compassionate to themselves in times of stress or struggle rather than overly self-critical. The original 26-item scale was designed to capture the six-factor construct, which comprises self-compassion—self-kindness, common humanity, mindfulness, self-judgment, isolation and over-identification. A 5-point Likert scale ranging from 1 (almost never) to 5 (almost always) is used to measure the scale items, with negative items reverse-coded. Some sample items include: "*I try to see my failings as part of the human condition*," "*I'm disapproving and judgmental about my own flaws and inadequacies*," and" *I try to be understanding and patient towards those aspects of my personality I don't like*." The short form version of the SCS is comprised of only 12 questions, but was very closely correlated with the long form ($r \geq .97$) on three samples that were part of a validation study. This same study also found adequate internal consistency (Cronbach's $\alpha \geq .86$) in all three samples (Raes, Pommier, Neff, & Van Gucht, 2011). In addition, a confirmatory factor analysis SCS-Short Form not only supported the same six-factor model associated with the six constructs of self-compassion, but also demonstrated a single higher-order factor for self-compassion (Raes et al., 2011, p. 254). (See Appendix E) In the present study, which also used the short form, the alpha was .94.

Teacher Concerns Checklist (TCC) — *Impact* Concerns

Conceptualization of the 45-item Teacher Concerns Checklist (TCC) was developed first by Fuller (1969) and was later refined by Borich and Tombari (1997) to assess the following three subscales of concern: self (teacher); task (teaching), and impact (pupil). Kim, Cho, and Svinicki (2011) used questions from the TCC itself to describe

further the three subscales: concerns about self (e.g., *Obtaining a favorable evaluation of my teaching*), task (e.g., *Having too many non- instructional duties*), and impact (e.g., *Understanding what factors motivate students to study*). In an early study of the 56-item version of the instrument, coefficients of internal consistency for all three subscales ranged from .79 to .91 (Parsons & Fuller, 1974). However, the factor of interest in this study is *impact*-concerns, or stated yet another way, student learning. Within the current, 45-question version of the tool (Fuller & Borich, 2000), there are 15 questions related to the *impact*-concern construct. Response options are on a five-point Likert scale that ranges from 1 - *Not concerned* to 5 - *Totally preoccupied*. The Kim et al. (2011) study, which examined the applicability of the model—originally developed by Fuller to explore K-12 teacher concerns—for postsecondary faculty, found a reliability coefficient (Cronbach α) for the *impact*-concern subscale of .93. This is supported by the .92 reliability coefficient found for *impact*-concern within the Cho, Kim, Svinicki, and Decker (2011) study—a study that fleshed out teacher concerns and characteristics for a graduate teaching assistant population. (See Appendix F) The alpha for this teaching assistant study was .81.

Course Instructor Survey—Teaching Assistant Form 50

The specific Form 50 questions to be combined in the analysis to form the variable *KindPatientReceptive* are:

- The teaching assistant is kind and respectful of me
- The teaching assistant was patient with my questions.
- The teaching assistant was receptive to my questions.

At the end of a semester, courses supported by teaching assistants have the option of having their students evaluate the teaching assistants. Form 50 is comprised of 9 standard questions, an open-ended response section and a scoring area for any other, customized questions that may be of interest to the instructor of record. Responses for 8 of the questions, which include asking students' whether the TA was available for office hours and seemed interested in the content, are on a Likert-type scale ranging from "Strongly Disagree" to "Strongly Agree." Another section, comprised of one question, asks students to compare the teaching assistant (TA) of their section to other TAs the students may have had. Responses to the question, also, on a Likert scale, range from "very Unsatisfactory" to "Excellent." (See Appendix G.) The questions that were culled from Form 50 and chosen for this study were the ones deemed to best represent some element of actual teacher-student interactions. An example of an item that was not chosen for this study is—*The teaching assistant was available for scheduled office hours*. Questions that were used for this study, and those that were not used, can be used to make determinations about which TAs to hire or fire.

Demographic Questions

Participants were asked to respond to questions providing information about their demographics, including age, ethnicity/race, years of teaching experience, years of graduate study, college or school affiliation, amount of time spent engaging in meditation or prayer, intended career path, and University ID number for tracking purposes.

Interview Questions

In addition to the survey and demographic questions, respondents were asked to consider participating in a follow-up, face-to-face interview and asked about their

discussion preparation practices and reflections. (See Appendix K for the list of interview questions.)

ETHICAL CONSIDERATIONS

The research proposal, informed consent, and a draft of the survey were approved by the Institutional Review Board (IRB) of the University of Texas at Austin. The study designation was 2012-11-0113.

Procedure

Teaching assistant recruitment was facilitated through the School of Undergraduate Studies (UGS) administrative staff. Participants received an email briefly describing the study, its purpose, format, approximate time required and description of a small incentive—a chance to win one of three Target gift cards valued at $100 each in a drawing—for completing the survey, with another opportunity to win one additional card valued at $100 for those participating in the follow-up interview. Participants were informed that the online survey could be taken in the location of their choosing (i.e., home, school, library, etc.), and they could email or call the Principal Investigator with any questions before they began answering survey questions. The link to the survey was included at the end of the e-mail.

The data were collected via an online survey. Upon going to the survey site, participants first saw a Cover Letter for Internet Research with the Principal Investigator's contact information (see Appendix I) before they chose to begin the study. Participants were instructed that it would take approximately 30 minutes to finish the survey. However, participants were permitted to save and later continue the survey. In order to protect the privacy of the participants, the instructions stated that they did not

have to answer any question they felt uncomfortable answering and that they were free to discontinue the survey at any time. The survey was programmed to require responses for all scale-based question blocks; however, survey participation, and completion, remained strictly voluntary. Confidentiality was protected by removing all identifying information from student responses on the questionnaires, which were only accessible to the Principal Investigator, his advisor, and members of the dissertation committee.

The survey tool, Qualtrics, was used to capture the survey data. The primary researcher collected all data in a password protected online survey system accessed on the researcher's password-protected account and personal computer. According to the Qualtrics website: "Qualtrics has SAS 70 Certification and meets the rigorous privacy standards imposed on health care records by the Health Insurance Portability and Accountability Act (HIPAA). All Qualtrics accounts are hidden behind passwords and all data is protected with real-time data replication." The Principal Investigator's computer was used to analyzed the data via SPSS, which is also password protected.

Upon completion of the survey, a final request was made of survey respondents. They were asked to consider participating in a follow-up face-to-face interview. Upon arrival at the interview site, participants first received an additional informed consent with the Principal Investigator's contact information (see Appendix J.) before they chose to begin the study. Participants were informed that it would take approximately 30 minutes to participate in the interview, and that the interview would explore their discussion preparation practices and their reflections related to that process.

DATA ANALYSIS

All survey data were analyzed using SPSS software. Preliminary analyses were used to obtain descriptive statistics and to examine differences among the scales by

gender, ethnicity, teaching experience, spirituality practice, college or school, and career path. As the main analysis, a simple linear regression analyses was conducted to determine the degree to which each variable predicted the outcome variable of the *KindPatientReceptive* construct.

Although coding software was not used to assist in analysis, interview data were then analyzed using a multi-step process, to a certain extent mirroring those suggested by The Coding Manual for Qualitative Researchers (Saldaña, 1999) and the Qualitative Analysis Guide of Leuven—QUAGOL (Dierckx de Casterlé et al, 2012). In addition, my own expertise in coding qualitative data was brought to bear.

Chapter 4: Results

STATISTICAL ANALYSES

Descriptive Statistics

Table 4.1 (see below) presents demographic information from the sample of 19 participants (N = 6 for interviewee data). With respect to race or ethnicity, the majority of participants identified as European American/White (63.2%) while the largest minority group identified as being Hispanic (21.1%). Small proportions of the participants identified as African American or Black (1), Asian American (1), Multiracial (1), or Other (1).

In terms of number of years of graduate study, the largest group was that which identified as having been in school for 3-5 years (47.4%), followed by two groups, one at 1-2 years and 6-10 years, each representing 21.1% of the sample. The final group was those self-identified as having been in graduate school for less than 1 year (10.5%).

Females represented the largest group of study participants at 63.2%, with males at 36.8%. Participants were also asked how much previous teaching experience of any kind they had. Those with 3-5 years were the largest group (42.1%), followed by those with one semester (26.3%), those with previous experience from 1-2 years (21.1%), and finally, those with 6-10 years (10.5%).

Regarding time spend meditating, praying, or engaging in other spiritual activities, the majority (n=13; 68.4%) responded that they spent no time engaging in the activities. Three participants (15.8%) responded that they spent up to an hour a week engaging in those activities. The final three respondents selected “more than 3 hours, up to 6 hours a week” (n=1, 5.3%), “more than 6 hours, less than 10 hours a week” (n=1, 5.3%), and “more than 10 hours a week” (n=1, 5.3%).

Table 4.1. Participant Demographic Breakdown

Total Sample		19	100%
Race/Ethnicity*	African American or Black	1	5.3%
(*Multiple selections permitted; one	Hispanic or Latino/Latina	4	21.1%
respondent selected Hispanic and	European American/White	12	63.2%
Multiracial)	Asian American	1	5.3%
	Multiracial (Afro-Brazilian, white)	1	5.3%
	Other (White, not American)	1	5.3%
(Native American or Alaska Native, Asian/Pacific Islander, & Middle Eastern)		0	0.0%
Years of Graduate Study	Less than 1 year	2	10.5%
	1-2 years	4	21.1%
	3-5 years	9	47.4%
	6 or more years	4	21.1%
Gender	Male	7	36.8%
	Female	12	63.2%
Teaching Experience	1 semester	5	26.3%
	1-2 years	4	21.1%
	3-5 years	8	42.1%
	6-10 years	2	10.5%
	11 or more years	0	0.0%
Time —meditating, praying or other	None	13	68.4%
spirituality practice	Up to 1 hour a week	3	15.8%
	More than 1 hour, up to 3 hours a week	0	0.0%
	More than 3 hours, up to 6 hours a week	1	5.3%
	More than 6 hours, up to 10 hours a week	1	5.3%
	More than 10 hours a week	1	5.3%

Table 4.1 (continued)

School or college	Communication	2	10.5%
	Education	1	5.3%
	Engineering	2	10.5%
	Fine Arts	1	5.3%
	Law	2	10.5%
	Liberal Arts	7	36.8%
	Natural Sciences	1	5.3%
	Public Affairs	3	15.8%
Career Path	Researcher	2	10.5%
	Faculty, research institution	7	36.8%
	Faculty, teaching institution	5	26.3%
	Professional in the private sector	4	21.1%
	Other	1	5.3%*
(Teacher, Administrator/executive officer, Counselor/Therapist/Consultant, and Professional in the public sector)		0	0.0%

*non-profit, NGO

Preliminary Data Analyses

Table 4.2 provides means, standard deviations, and reliability analyses for all study measures. The reliability of the instruments was calculated by Cronbach's alpha and reported in the measures section of the document. Cronbach alphas were derived for each of the measures in the current study to assess internal consistency of the instruments. With the exception of the Teacher's Sense of Efficacy Scale and the Mindfulness Process Questionnaire, analyses revealed that all Cronbach Alphas fell in the acceptable, good, or excellent range. The Efficacy Scale alpha was in the unacceptable range; the Mindfulness Process Questionnaire was in the questionable range (Kline,

1999). The alpha is also presented for CIS_567, which represents the combined scores from three questions—the teaching assistant was kind and respectful of me, the teaching assistant was patient with my questions, and the teaching assistant was receptive to my questions—from the Course Instructor Survey data of 381 student ratings. A factor analysis run on the constructed scale suggested that one of the three items—*the teaching assistant was kind and respectful of me*—explained 96.35% of the variance. However, it is not feasible to run a linear regression analysis on a single scale item (Grace-Martin, 2013). Therefore, all regression analyses were run on the three-factor constructed scale—*KindPatientReceptive*.

Table 4.2. Means, Standard Deviations, and Reliability Analyses

Measure	*M (SD)*	Cronbach's α
CIS_KindPatientReceptive (CIS_567)	4.50 (.31)	.98
Five Facets of Mindfulness (FFMQ)	3.51 (.51)	.92
Mindfulness Process Ques. (MPQ)*	3.20 (.55)	.68
Self Compassion Scale (SelfCompass)	3.07 (.96)	.94
Teacher Concerns—Impact (Impact)	3.52 (.40)	.81
Teacher's Sense of Efficacy (Efficacy)	6.76 (.43)	.46

*Note. *MPQ—7 item version.*

Statistical Assumptions

There are several assumptions that must be met for linear regression. First, the *variables measured must be ratio or interval, in other words continuous*. Although Likert scale items could rightly be considered categorical, the variables for this analysis are composed of multiple items and comprise full Likert Scales, not simply Likert items and may be considered numerical (Gliem & Gliem, 2003; Smith, 2013). Therefore, the first assumption is met.

The second assumption is that there *must be a linear relationship* between the two variables. This assumption was checked for linearity by visually inspecting the scatterplots of each dependent variable against the independent variable. The third assumption is that there be *no significant outliers*, as determined by visual inspection and by analyzing the Casewise Diagnostics table, which is generated by SPSS when any standardized residuals ±3 are noted. The Durbin-Watson statistic was used, where appropriate, to ensure that the fourth assumption—*independence of observations*—was met.

The fifth assumption that must be met for a linear regression is that of *homoscedasticity*, that is, that the variances along the line of best fit remain similar along the line. The sixth assumption is that the *residuals (errors)* of the two variables used for analysis *are approximately normally distributed*. This was analyzed, as appropriate, with a visual inspection of the histogram and, for the sake of redundancy, a Normal P-P Plot.

All of the analyses that follow were subjected to the above criteria and all were found to be appropriate for the analysis procedure.

Primary Data Analyses

Hypothesis 1: *Self-compassion* would be a strong predictor of positive student responses on the targeted Teaching Assistant Form 50 construct—*KindPatientReceptive*.

A linear regression regressing Self Compassion on the targeted Course Instructor Survey item established that Self Compassion as measured by the Self Compassion Scale (Short Form) does not appear to significantly predict a teaching assistant's results on the targeted Course Instructor Survey item, *KindPatientReceptive*, $F(1, 17) = .366$, $p > .05$, and Self Compassion accounted for only 0.366% of the explained variability in the *KindPatientReceptive* combined CIS score.

Table 4.3. Regression of Self-Compassion on KindPatientReceptive

		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	β	R^2
1	(Constant)	4.646	.249		
	Self_compass	-.047	.078	-.145*	.021

Note. *$p > .05$.

Hypothesis 2: A teaching assistant's positive trait mindfulness would predict positive student responses on the targeted Teaching Assistant Form 50 construct.

A linear regression regressing trait mindfulness on the targeted Course Instructor Survey item established that trait mindfulness measured by the Five Facets of Mindfulness Questionnaire (FFMQ) does not appear to significantly predict a teaching assistant's results on the targeted Course Instructor Survey items, *KindPatientReceptive*, $F(1, 17) = .000$, $p > .05$, and trait mindfulness accounted for 0.000% of the explained variability in the *KindPatientReceptive* combined CIS score.

Table 4.4. Regression of Trait Mindfulness on KindPatientReceptive

		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	β	R^2
1	(Constant)	4.502	.526		
	FFMQ	.000	.148	.000*	.000

Note. *$p > .05$.

Hypothesis 3: Scores that indicate effective mindfulness practices would predict positive student responses on the targeted Teaching Assistant Form 50 construct.

A linear regression regressing effective mindfulness practices on the targeted Course Instructor Survey item established that mindfulness practices measured by the Mindfulness Process Questionnaire (MPQ) does not appear to significantly predict a teaching assistant's results on the targeted Course Instructor Survey items, *KindPatientReceptive*, $F(1, 17) = .031$, $p > .05$, and trait mindfulness accounted for 0.031% of the explained variability in the *KindPatientReceptive* combined CIS score.

Table 4.5. Regression of Mindfulness Practices on KindPatientReceptive

		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	β	R^2
1	(Constant)	4.425	.442		
	MPQ	.024	.136	.043*	.002

Note. *$p > .05$.

Hypothesis 4: A teacher's sense of efficacy score would moderately predict positive student responses on the targeted Teaching Assistant Form 50 construct.

A linear regression regressing teacher's sense of efficacy score on the targeted Course Instructor Survey item established that a teacher's efficacy measured by the Teacher's Sense of Efficacy Scale (TSES) does not appear to significantly predict a teaching assistant's results on the targeted Course Instructor Survey items, *KindPatientReceptive*, $F(1, 17) = .637$, $p > .05$, and teacher's efficacy accounted for 0.64% of the explained variability in the *KindPatientReceptive* combined CIS score.

Table 4.6. Regression of Teacher's Efficacy on KindPatientReceptive

		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	β	R^2
1	(Constant)	5.436	1.171		
	TSES	-.138	.173	-.190*	.036

Note. *$p > .05$.

Hypothesis 5: Higher teacher impact concerns scores would predict positive students responses on the targeted Teaching Assistant Form 50 construct.

A linear regression regressing teacher impact concerns score on the targeted Course Instructor Survey item established that a teacher's Concerns-Impact measured by the Teacher's Concerns Checklist—Impact (TC_Impact) does not appear to significantly predict a teaching assistant's results on the targeted Course Instructor Survey items, *KindPatientReceptive*, $F(1, 17) = .763$, $p > .05$, and teacher's TC Impact accounted for 0.76% of the explained variability in the *KindPatientReceptive* combined CIS score.

Table 4.7. Regression of Teacher Concerns on KindPatientReceptive

		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	β	R^2
1	(Constant)	5.073	.658		
	TC_Impact	-.162	.186	-.207*	.043

*Note. *$p > .05$.*

Statistical Analysis—Summary

Several factors may have impacted the results of the regression analyses and made it difficult to find any significant predictors. Among the issues of concern are the small sample size, the non-meditating nature of the sample, the inherent difficulty in measuring the construct of mindfulness, the possible difference between personal and professional (or teaching mindfulness), the use of a student-reported evaluation score to measure select teaching assistant variables that were then concatenated to create a dependent variable, and the attempt to use measures made for other populations and designed to measure other constructs, not necessarily one's mindfulness in teaching. These issues will be addressed in more detail in Chapter 5: Discussion.

Qualitative Data Analysis

Research question 2: Do those TAs that receive higher CIS scores described above practice mindfulness?

Research question 3: If TAs do practice mindfulness, in what way and how frequently?

Research question 4: How do the TAs' metacognitions related to their classroom mindfulness practices inform their discussion facilitation?

Qualitative data were gathered via face-to-face interviews with 5 of 6 participants; due to their remote location (India), one participant responded to the interview questions via e-mail. Interview questions touched on student's actions and reactions to generic teaching scenarios. (See Appendix K for the list of interview questions.)

Descriptive Statistics—Interviewees

Demographic information from the sample of six interviewees is presented below. With respect to race or ethnicity, all participants identified themselves as European American/White (n = 6).

In terms of number of years of graduate study, the largest group was that which identified as having been in graduate school for 3-5 years (n = 3), followed by three groups, one at less than 1 year, one at 1-2 years, and one at 6-10 years, each representing 16.7% of the sample.

Women (n = 5) represented the largest group of study participants at 83.3%, with men at 16.7%. Participants were also asked how much previous teaching experience of any kind they had. Those with 1 - 2 years were the largest group (n = 3), followed by those with one semester (n = 2), and finally, those with 6-10 years (n = 1).

Regarding time spent mediating, praying, or engaging in other spiritual activities, the majority (n = 4) responded that they spent no time engaging in the activities. One participant responded that he/she spent up to an hour a week engaging in those activities. The final respondent selected "more than 10 hours a week." Three respondents were graduate students in Liberal Arts (n = 3) and there was one each from Engineering, Fine Arts, and Natural Sciences. Five teaching assistants (83.3%) selected "faculty, research institution" as their career path; the final teaching assistant (16.7%) chose "faculty, teaching institution" as their career path.

Qualitative Data Analysis—Process

As previously noted, six survey respondents agreed to a follow-up interview. One participant, due to her remote location in India, responded to the interview questions via

e-mail. Face-to-face interview sessions all occurred in public venues, coffee houses, cafeterias, or lobbies, and ranged in length from approximately 60 minutes to 120 minutes. Due to the anticipated difficulty of sustaining future contact with the interviewees due to issues such as graduation and travel, throughout each interview, the interviewer paraphrased responses back to interviewees as a form of *respondent validation*. Two examples follow:

Example 1: On how the respondent gets students to value learning.

Interviewee: "…I guess I use a lot of personal examples of how I came to value something, like why it's important to me, or why it's important to somebody else."

Interviewer: "Okay, So, that makes sense. Through sharing, you're giving some depth of appreciation to how you became interested in the field."

Interviewee: "Yeah. If at all possible, I'm big into personal examples. If I can come up with a personal anecdote, if someone doesn't see the value in something, I come up with a personal anecdote of why it's important to me."

Example 2: On dissatisfaction with a response to a students' question.

Interviewee: "I guess a dissatisfaction maybe with my response to a student's question would be a clarity issue. Freud comes to mind. The UGS course last fall, the very first thing that was introduced was Freud's notion of the uncanny. His theory. Theory is difficult enough to deal with as a graduate student. It's very complex for an undergraduate student. So it became a real battle of trying to clarify for them what Freud was actually saying, because anything they dealt with throughout the semester hinged on whether or not they understood Freud's notion of the uncanny. It's hard to argue a ten-page paper based on an idea you don't comprehend. So, I think maybe I did have some dissatisfaction with my responses to questions about the uncanny in terms of my ability to clarify theory and to think about what it's like to be first introduced to theory, and how incomprehensible it can be."

> Interviewer: "So, in your initial response maybe you didn't remember how it might have been [to comprehend theory] from a particular student's perspective."
>
> Interviewee: "Yes. Yes."

All face-to-face interviews were recorded and later transcribed. Post-transcription, the interviews were reviewed and then color-coded to differentiate between interviewer and interviewee content. In addition, select entries were highlighted, using a different color scheme, for further review and analysis.

Several iterations of data analysis followed. Exploratory, comparative, and interpretive analyses were used to review the data. In the initial exploratory passes, the interview data were simply reviewed and, in later passes, analytic memos (i.e., "classroom management," "student focus,") were handwritten onto the transcripts. As the process evolved, question responses were examined for comparative purposes, and initial interpretations were either discarded or refined. As part of the process, responses were categorized based on responses to interview questions. That breakdown, with selected examples, follows below.

After the initial exploratory passes, interview responses were analyzed from the perspective of the survey variables—*trait mindfulness, mindfulness practices, self-compassion, teaching efficacy, and teacher concerns*. Quantitative survey data were referenced as part of this analytical process. An additional analysis used the components of the Metacognitive Awareness Inventory, *Knowledge of Cognition and Regulation of Cognition* (see Appendix C), to examine the interview data.

Qualitative Data Analysis—Interviewee Responses by Question

In order to provide a contextual overview of the qualitative transcripts, a subset of interview questions, along with exemplar responses, are provided below.

Question 1: *Describe a time when you were dissatisfied with your response to a student's question.*

Example: "…Yeah, I guess I would be—dissatisfied is not a word I guess I think of. But, um, for me, the difficulty with student responses is, and I think it's a cultural problem; what I do in my discussion sections is predominately deal with textual analysis. There's a lot of multimedia that's happening in the UGS courses and the professors tend to focus on film clips, visual art, that are carrying the same types of ideas that the literature is presenting. Um, of course, because it's part of the Romantic period, or the Victorian age. So what I do primarily is textual analysis, and it tends to be very difficult for students to penetrate beyond the initial, emotive reaction to a text: I like it or I don't like it. I think any dissatisfaction that I would have, and I don't blame them, would arise with the lack of effort that's involved in the implication of what they're reading and viewing. Meaning they will take their visual world or their textual world at face-value and not think that words are chosen for a reason and are shaping their perception of things."

Question 2: *How do you react when an English as a second language student asks a question that you can't understand even after they repeat their question two or three times?*

Example: "I have not had an experience of exactly this kind. However, I have had ESL students whose written work was at times nearly grammatically unintelligible. I found it was most helpful to have those students come talk to me about what they meant to say in office hours, since they were almost always capable of rephrasing their idea orally with more clarity. Then we would go over how to translate those relatively clear oral explanations into written work."

Question 3: *How do you deal with distressing or disturbing thoughts you may have during a class session?*

Example: "Well, this is actually a very interesting question because I would say that any distressing or disturbing thoughts that I have during a class session tend to emerge from the class itself, in which case, I bring it up. For instance, I think a lot of future professors possibly have this idea of this spell they want to weave

over the classroom. I'm guilty of that as well. And so, because I'm older and kind of old-school, I'm concerned about iPhones, computers, this idea that information is so accessible, and yet, understanding isn't the same as knowledge. Wanting them to read. Wanting them to think. And so what becomes distressing for me, which is silly, is that everything they're learning and dealing with in an academic environment, to me really becomes ontological questions. Picking up an iPhone, not reading the text, and reading a summary of it is really a whole question about how you're traveling through life, and how you're dealing with knowledge information. So I'm very distressed when I find that emerging in the classroom. And so I deal with it in—I kind of collapse it into what I'm dealing with. So, okay, we're looking in this class at a Tarkovsky film, and we're talking about it in a nature of science fiction and it's this long, panning shot—well, is this really about presence? About being in the moment, about reflecting, and therefore, do we have in our own lives things in which pull us away from the present moment and reflecting, um, to make them think about, um, ideas that are presented in the 14th, 15th, 16th, 17th, 18th Century, about how we perceive our world and interact in the world are just as relevant today and are shedding light on how we're existing today. So, I guess that's what I would say. My distressing and disturbing thoughts tend to be, the students aren't engaged, they're not getting it, they're not picking up that this is about being present, being self-reflective, and it's actually what they really need to get because they need it more than anybody. And those thoughts disturb me a lot. And I always try to bring it back as a reflection of their own here-and-now. This isn't just writing about a text. This actually about the way in which human being's live and are still living now."

Question 4: *Describe a time in class when you realized your thoughts and feelings about a student in your class might be impacting your instruction.*

Example: "There was one student in a class last semester, who, um, would come off sort of as arrogant to me, and he tended to be not necessarily aggressive, but he would just sort of dominate class discussion. Um, and I—I will have a tough time with confrontation sometimes, so I think I would kind of back down, just because I didn't really know how to handle him; I didn't want to, you know, I thought he had a lot of potential, I didn't want him to take anything personally, so sometimes I feel like that affected the class because I wouldn't step in and let other people sort of get their opinions across."

Question 5: *Tell me about a mistake you made in class.*

Example: "I made an offhand comment about a student in response to a comment he made during discussion section. The comment was meant to be light and complimentary, but he misheard it as a dig on the intelligence of his contribution. He said something like 'Whoa. Harsh.' but then laughed it off. It soon became

clear to me that a misunderstanding had occurred. This was partly an acoustics problem, but partly because I had tried to build rapport with a too-casual form of engagement. After that incident I became more formal in group settings."

Question 6: *Describe a time when you noticed a student's reaction to a point you were making in class that might demand attention.*

Example: "…Yeah I guess when I'm seeing like a confused look, I try to reflect quickly and think like '…[did I] use a term that nobody knows?'... then, I'll stop and say 'Okay, do we all know whatever this thing means?' And generally, you'll find that no, not everybody knew what I meant so I have to define the term."

Question 7: *Describe a time when a student or students were being disruptive.*

Example 1: "I can't really think of disruptive in general. I kind of disagree with the terminology, just from an education pedagogy stand point. I just kind of disagree with that terminology but I understand what you're trying to ask and I don't have a situation that quite fits that. But I think maybe times when one student's learning process could maybe not be what I was going for and could kind of make situations tense for the other students."

Example 2: "I did have a student fall asleep in class, which was actually disruptive because it was oral presentations, so she was sleeping and we were all supposed to be listening to a presentation. And I think I came out with a snide remark, like, what did I say, something like, you know, 'Well, *clearly* this is exciting for Lauren.' Like, you know, um—. Which was rude. But I thought maybe shame, at that point, you know, she had fallen asleep several times; I thought shame from her peers would have been more effective than my constantly waking her up. I consider sleeping in class to be disruptive."

Question 8: *Describe what you do to help students value learning*

Example 1: "That's such a big one for me. Well, since primarily what I deal with is textual analysis, for me, that really is not only a academic practice, but to me it really is kind of figurative for the value of learning; meaning, I read all the Wikipedia and Sparknotes interpretations on line of the text, because I want to know if that's all they're reading, if those are the responses I'm going to get. And, I make them bring their texts with them to class. And, when I prepare my lesson about a text I have very particular things I want to talk about. I always want to see if they want to talk about them as well. Quite often they do. They just haven't gotten to the point I've gotten. But I'm very particular about page numbers and passages. And, I want them to know the difference between understanding and knowledge. So you can read a Sparknotes summary, and that's

an understanding of what the text is about, but it's not the knowledge that's contained in the text. You have to let the words be able—you've got to take the words in. That's the only way art is, or, visually, it's going to have a potential to become knowledge that you can use in other experiences. And, I want them to value the taking in of information versus just the understanding you get from something. So, when we, I have them come out with, What are your gut-reactions to the texts? What did you like? Just give me a general idea of what was interesting to you. And then, I see where they fall with my own agenda of what I want to talk about. And then, I immediately go into the text itself, and concentrate on passages, on over all ideas, particular words that could be the crux of a whole understanding of something, to get them to, to get their ideas and their thoughts to be emerging from the text itself, and to really have an appreciation for what an author's doing, and what a text is doing, and what an art is doing as a cultural representation, not only at that particular time period it's written, but its potential to have effect on them at the time they're reading it. So, I really try to stay as kind of intrinsic as I can, to get them to understand the value of close reading, of critical analysis, and not just this kind of larger—If I understand what the story's about I understand the story. That's not true. Right? You can read the summary of the story, but that's not going to give you the true knowledge and critical awareness of what's happening in the text, and to know that you can use that information and those ideas later on in other scenarios. That's what knowledge is about, is the ability to use it later in—see what I mean? I'm not just at that particular moment…"

Example 2: "I don't know that I can help students value learning. That has to be an internal compulsion that I don't have the power to implant. What I can do is make them feel that they are part of a community of learners in which all members bear responsibility to help the group learn."

Question 9: *What would you do differently to make the [UGS] training more helpful for TAs that lead discussion sessions?*

Example 1: "I was in a cohort with a girl that was teaching chemistry, a guy who was teaching math, and a few other people that I don't know what they were teaching. If we were all in the performing arts cohort, or if we were all in a discussion base class, or if we were all in a lab, maybe that would've helped."

Example 2: "I think it might be more helpful if perhaps, say, the cohorts were grouped by some sort of subject, or by some—because, like the guys, or, the one guy was doing chemistry, and another one was doing something totally, like, I don't remember, but what they were doing didn't necessarily apply to me whatsoever."

Example 3: “One thing I wished we had had the opportunity or encouragement to do is meet with our own cohort of TAs to get a sense of how they led discussions about the same material. That probably would have benefitted both us and the students.”

Example 4: “I think I would probably—I probably wouldn’t have a group of TAs all coming from six different disciplines. I would probably gather them into humanities and sciences. I don’t know if that runs contrary to what UGS is trying to do in terms of this common experience across disparate disciplines.”

Example 5: “I guess I would reiterate whatever I said I would divide by writing versus non-writing and I’d also divide um, based on discipline. Um, ah, if it were possible and I don’t know if it is, I’ve thought about this both years if it were possible to have a template already created for TA’s…a tool that would help TA’s assess quickly whether their grading the same or they’re not..”

Example 6: “there wasn’t maybe as much follow through in these sections as, as you might expect and maybe the ordering of them, of the lesson, of the kind of -- so each day you kind of pick like a topic sort of uh, library or whatever. I-I think the ordering of them maybe was a little different than maybe…Yeah, so uh, at the beginning he talked a lot -- he talked about how we’re going to have to bring in kind of our lesson plans or rubrics and stuff like that.

Interviewer: Did you do that?

Example 6 cont.: Uh, I would have but then by week two, uh, all that stuff was kind of thrown off the -- it was never, yeah… So it’s more like abstract philosophy about, about teaching…

Interviewer: So you never did it, or he never asked for it? What happened there?

Example 6 cont.: Uh, he never asked for it. And we never did anything with it.”

The examples provided are meant to show that participant responses range in size and scope. Although not all questions, or follow-up prompts were provided, these examples are proffered to provide a sense of how deeply the interviewees may have thought about some of these issues.

Qualitative Data Analysis—Individual Interview Responses by Study Variable

In this section, interview data were analyzed from the perspective of the following variables—trait mindfulness, mindfulness practices, teacher concerns, self-compassion, and teacher efficacy. The interview questions were conceptualized from the variable scales and the Metacognitive Awareness Inventory (see Appendices A-F). Relevant quotes, along with context, are provided for consideration. In addition, for each variable section a table will be provided with respondent variable scores, the average score for the variable for all survey respondents, and the interviewee ranks within that population. An additional table for each variable, which lays out the interview questions used to frame the analyses, is also provided. Included in this table is a list of related scale questions—the questions from which the interview questions were derived. The purpose of this approach is to provide another means of considering the relevance of the scale scores in the context of the narrative responses.

The following table (4.13) provides a detailed breakdown of the interviewee demographic data. This table is offered as a means of better interpreting respondent answers to the interview questions. The elements of the table, which include the number of years in graduate study, the number of years of teaching experience, and the time spent meditating, praying, or engaging in similar activities, offer a depth of context designed to assist in interpretation. Along those same lines, in this section and in the following section, respondents will be referred to by their pseudonym, which is based on the UGS course for which they served as a teaching assistant.

Table 4.8. Detailed Demographic Breakdown, Interviewees

Interviewee Pseudonym*	Sex	Years: Graduate Study	Race	Teaching Experience	Time: Meditate, Pray	College	Career Path
Sustainability	F	6 or more years	White	6 - 10 years	None	Engineering	Faculty, research institution
Numbers to Chaos	F	3-5 years	White	1 - 2 years	More than 10 hours a week	Natural Sciences	Faculty, research institution
Mexican Catholicism	M	Less than 1 year	White	1 - 2 years	None	Fine Arts	Faculty, research institution
Argumentative Writing	F	3-5 years	White	1 semester	Up to 1 hour a week	Liberal Arts	Faculty, research institution
Gender and Sexuality	F	1-2 years	White	1 - 2 years	None	Liberal Arts	Faculty, teaching institution
Art of the Uncanny	F	3-5 years	White	1 semester	None	Liberal Arts	Faculty, research institution

*Note. *Pseudonyms are based on courses for which teaching assistants were assigned and are intended to provide additional context; multiple teaching assistants assigned to each course, so confidentiality should be maintained.*

Trait mindfulness—Face Facets of Mindfulness Questionnaire (FFMQ)

Trait mindfulness is comprised of the five facets of mindfulness (Baer et al. 2006)—non-reactivity (e.g., **"**I watch my feelings without getting lost in them**"**), observing (e.g., **"**I notice the smells and aromas of things**"**), acting with awareness (e.g., **"**I am easily distracted**"**), describing (e.g., **"**My natural tendency is to put my experience into words**"**), and nonjudging (e.g., **"**I disapprove of myself when I have irrational ideas**"**). To the extent that it was feasible, and from the perspective afforded by the teaching assistants, the applicability of this construct is explored.

To begin with, below is a table that displays interviewee scores for the FFMQ. These scores and rankings will be used to provide additional context for the interview data. Also provided are the *KindPatientReceptive* scores, Course Instructor Survey items

5, 6, and 7 (CIS_567), along with the interviewee's CIS Score ranking in comparison to the total respondent population (n = 19).

Table 4.9. Interviewee Trait Mindfulness (FFMQ; scale range 1 -5)

Interviewee	FFMQ*	Rank (n = 19)	CIS_567 (Rank)
Art of the Uncanny	3.94	3	4.84 (3)
Gender and Sexuality	3.83	4	4.91 (2)
Numbers to Chaos	3.61	10	4.93 (1)
Argumentative Writing	3.51	12	4.35 (14)
Sustainability	3.44	14	4.66 (7)
Mexican Catholicism	3.00	16	4.10 (17)

*Average = 3.51

In the following table is a list of the interview questions and a selection of the FFMQ-affiliated questions used to assess trait mindfulness. Many of the interview questions begin with the word "describe." Although it could be argued that any responses might fulfill the *describe* facet of the FFMQ, the richness of the descriptions, no matter the interview question, were taken into account. This also holds for the *observe* facet. Also, follow-up questions, a rich data source, are not included in the table.

Table 14.10. Interview Questions Affiliated with Trait Mindfulness

Interview Questions	FFMQ (Appendix A)
Describe a time when you were dissatisfied with your response to a student's question.	3, 10, 17
How do you *react* when an English as a second language student asks a question that you can't understand even after they repeat their question two or three times?	21, 29
How do you deal with distressing or disturbing thoughts you may have during a class session?	19, 24, 29, 33, 39
Describe a time in class when you realized your thoughts and feelings about a student in your class might be impacting your instruction.	19, 33
Tell me about a mistake you made in class.	4
Describe a time when a student or students were being disruptive.	21
Describe a time when you noticed a student's reaction to a point you were making in class that might demand attention.	4, 8, 34

Art of the Uncanny, when remarking on her approach to a student's reactions, noted that what she "did was point out that the texts that are dealing with religious issues can become really sensitive, and it's exciting that you find a lot of resonance with what you are reading." This approach seemed to incorporate many components of trait mindfulness. There was no judgment in her analysis and she acted with awareness by acknowledging his beliefs, which she described as his desire to "pile-drive over the information that was being presented with his own belief system," while remind the student of the task at hand—to critically analyze Dostoevsky's dismissal of a socialist utopia, due to his status as a "believer." With this awareness, she praised the student's investment. However, she realized that while this student had "a really exciting and very valid approach," she also cautioned him to not let his "affinity or desire for this writer to be presenting or resonating your ideas override a critical analysis of it." In other words, she recognized and acknowledged the student's passion, but realizing that it would

impact his ability to write a critical analysis, she couched her feedback in a way that would "substantiate and validate" the student's own religious experiences, while also reminding him of the task at hand—in this case, "critically assess your own religion without becoming a disbeliever."

Art of the Uncanny also shared her acceptance that there are "always the students that don't take advantage" of office hours. She went on to say; "Well, we're resources. It's not judging you. It's not a value call. It's really a question of, I know you've got good ideas, it's just getting them on the paper is a whole different animal, and that's what I'm here for. It's not to tell you what to think about the text, but to see what your ideas are and to make them something really exciting that you want to talk about, and you would want to write about."

At another point, *Art of the Uncanny* shared the challenge of wanting her students to know and understand Freud's take on The Uncanny—the challenge of providing accessible examples of the theory. As she said, the "theory's about a feeling, but it's presented as this kind of intellectual jargon, and I think I had to go, 'You know what, it's really just a feeling he's talking about, it's a feeling we've all had, and that's why it's necessary for him to unpack the implications of that feeling...' So, let's just talk about the feeling that we've had." This focus on "the feeling" was presented as a means of making the theory accessible. It was also a part of her intense desire for her students to think, "…about how we perceive our world and interact in the world." And, when responding to a question about distressing or disturbing thoughts, responded that, "My distressing and disturbing thoughts tend to be, the students aren't engaged, they're not getting it, they're not picking up that this is about being present, being self-reflective, and it's actually what they really need to get because they need it more than anybody. "

Another teaching assistant, *Gender and Sexuality,* described a scenario in which a student, who happened to be gay, commented on the his discomfort with a documentary that the class had watched in which a "lesbian cop attempted to pass on her pension to her partner." The student, whom she described as a "radical queer student with a strong base of critical race theory," was offended that a cop was the protagonist in the documentary they were viewing because of the way that cops have "offended gay people." She described another student's reaction to this comment: "She raised her hand and she goes, 'That's not fair. My dad's a cop.'" Although *Gender and Sexuality* noted that after about 10 minutes the class was on the same page, she lamented the fact that she'd not been better prepared, that "had I had a little more time to prepare, had I known she was going to say this, I could have had a response prepared." She went on to say that she wanted the second student "to understand the difference between public and private, the difference between individuals in the system, and also the way in which the comment she made completely invalidated the experience of a least one of her classmates, but to do that without making her feel personally attacked." Her need to remain conscious of the turns a discussion might take, and then to respond in a way that might benefit the whole class was a constant refrain.

In another example, *Gender and Sexuality* described the delicate dance that's involved with personal narratives. In one scenario, she recalled a student who "mentioned her best friend being killed in a hate crime. I was not expecting her to say that. It didn't really follow with what we were saying. And, for me it was like, 'Okay, how do I not go there. How do I validate her experience, but not go there.'" Whereas at other times, she might integrate a personal narrative into the discussion, in this case she recognized that she was not prepared. This *trait mindfulness*, if you will, almost has to be a constant for

her "because for the most part it takes so much concentration that I'm so busy trying to read their lips and jot down the main ideas and then form a thought to it just in case it's my turn to say something, in case they're like looking at me for an answer." As she notes, "I have a hearing disability, so I have to be extremely focused. So I try not to let any other thoughts in. That's just the way I have to process the class in order to follow." She, in order to validate her students, without offending them, has to maintain a constant awareness.

Numbers to Chaos, on the other hand, although her FFMQ score was relatively high, discussed how unsettling it can be for her to deal with mistakes she might make in math class and how she makes mistakes all the time. She conveyed that her default was not to immediately deal well with mistakes, that, "Uh, it's always -- in Math um, but all the students are like, kind of, like talking to you. Uh, sometimes it's hard to like, really like just -- if I had 30 seconds, I'd be fine but this, in this environment, it's a little difficult." This generic scenario often played itself out during our interview. There were extremely long pauses and many of them. These pauses would often last for 30 seconds or more, and after one particularly long pause she said, "Um, sorry, what was the question again?"

Numbers to Chaos also shared a comment that might engender concern if individualized instruction is part of one's teaching repertoire. When discussing an inquiry-based math class, she said, "It ends up being a pretty big split as far as I can tell between the students who uh, are -- it becomes totally like uh, too um, it's not uh, it ends up being a total split of the class, for the students who are with it and the students who aren't with it." One might argue that a teacher exhibiting trait mindfulness in terms of how she characterized her students might be less likely to cluster them in that manner.

She also shared her take on the role of a math teacher, "it seems like the role of the Math teacher is mainly to manage discouragement unfortunately, um, you know, when they get – get that exam um, and turning maybe uh…" Also, it may simply be that this teaching assistant, *Numbers to Chaos*, is bright, and mindful, but she may be so bright that few can understand her. At one point, when asked how she might be able to bring more students to value learning, after acknowledging that some do and some don't, she recalled having "got some of them at least feeling, um, like, 'Oh yeah, like this is kind of an interesting subject.'" However, she went on to say how the topic in the scenario she described was "very motivating" and "related to String Theory, which is my area of research and kind of – about that. Um, so but, um…"

I asked what that was like, having "…a student at that level who was interested in something that you're interested in?" She responded, "Well uh, there's um, there's some -- was it… Uh, I guess maybe the uh, I guess maybe more honestly the way that maybe -- a lot of them I think were mostly doing the work in class because they like me as uh, as, as a TA." Naturalized transcription (Oliver, Serovich, & Mason, 2005) was used to capture all of *Numbers to Chaos'* utterances in order to better convey a sense of her speech patterns.

Argumentative Writing provided three examples of how she meets the learning needs of her students:

1. "Students have different temperaments, introvert and extrovert, that respond to different styles of teaching. One of the UGS observers brought to my attention that I was framing most of my questions for extroverts who were comfortable giving extemporaneous, on-the-spot answers. I went back and reframed some of my lessons to include more time for the kind of writing and reflection that introverts need to do their best.

2. Students need responsiveness from their instructor. I made a huge effort to let students know that I was keeping track of their progress and looking out for their successes. I sat with different members of my section in every Monday and Friday lecture, I always addressed my students by name, and I tried to reference their previous work when grading their current efforts. In the last weeks of the semester I doubled my office hours to make sure all students who wished to could meet with me about revising their final papers.

3. Students need boundaries. I wasn't a pushover with my students, and I let them know if they'd crossed a line of appropriate conduct (late night emails, tardiness, foul language, touching my person). I always emphasized that these were not my personal pet peeves (although, of course, they were also that) but that they were important faux pas to avoid in professional situations later on."

Although perhaps not as conceptual as *Art of the Uncanny* and *Gender and Sex*uality, *Argumentative Writing* evoked a sense of purpose. She also recognized that she may not have the power to get students to value learning, since it's an "internal compulsion," but what she does is "make them feel that they are part of a community of learners in which all members bear responsibility to help the group learn." The demands she makes on students, to require all of them to meet with her "5 days before their oral presentations to discuss the theme they planned to present" seemed designed to engender student success. After these meetings, she would then tailor lessons designed to "compliment their work." Along with the appreciation of, as she put it, "our [hers and the students] complimentary roles in teaching the rest of the class," her willingness to acknowledge and address her own shortcomings, as evidenced in the first item in her list, suggest a *trait mindfulness* orientation to teaching.

In a similar vein, *Sustainability* describes her desire to engage students by calling on them in class and wanting them to "feel the pressure to participate in a positive way," with an awareness of having to be "careful that that's for their benefit only and not for me

wanting to make sure they know whose boss." She also discussed her "mental practice" of saying "okay the reason that I'm engaging students is that they learn more and the reason I want them to behave in certain ways so that they will become better students and more importantly, better learners." She also spoke of the importance of evolving to have explicit make-up work policies that lessened the need for her to decide who was worthy of a second chance, or more time. Previously, she might "give the benefit of the doubt to students that I felt like deserved it and I don't -- I don't really want to bring that level of judgment into what I'm doing."

Mexican Catholicism, in response to how he dealt with distressing or disturbing thoughts, shared that he would become less vocal when "dealing with [his] depression." But, that he would usually try to "handle it through humor." In regards to his students, he touched on how he learned to handle a student who tended to "dominate class discussion." In particular, he spoke of how during peer review sessions he would set up the class differently by giving the students "very specific times; like, at 2:07, or whatever, you need to be this far along in the process, so that, really, and then I'd go around and say, Okay, it's time to switch, so that way I knew that everyone was getting a chance to speak."

On the other hand, he also recalled his "unpreparedness" when attempting to show the class how to use the library web site for research. He noted that "sort of addressed it in that sort of humorous way of trying to be like, trying to recognize I had made a mistake." Then he went on to share what he felt was his role, "Because, I really, I guess with my age, being as young as I am, I try and be sort of the intermediary, and because that's what a TA with a discussion section is kind of doing anyway, trying to really be the intermediary, like, show them that I can relate to them being a student, but

that I can also help them being a teacher. So that's kind of what it was, is I just sort of, like, you know, 'See, even I have trouble with this. If you need any more help, please see doctor such and such—(humorous)'"

Finally, Mexican Catholicism spoke of how he addresses learning needs by "making it [the class] something they want." In part, he does this by exploring their backgrounds, often in Mexican culture or Catholicism, and then "tie in what it is they're doing to connect that some sort of parallel to the class."

Although his own struggles with depression have influenced his instruction, his humorous approach to his own distress may suggest evolving *trait mindfulness*. For instance, when asked how is he kind to himself, he recalled his frustration with ensembles in which he would participate. As he said, "I just try and think to myself—especially world music ensembles invite members from the community who don't necessarily have any musical experience. Sometimes I get frustrated and just have to keep that in mind. That that's a good thing that they're here, and it's also a good thing that I'm progressing musically."

By and large, the teaching assistants who conveyed trait mindfulness could articulate their instructional goals. They also shared internal dialogues that were very evolved, and conscious of the need to remain diligent—to continue to learn as a teacher.

Mindfulness practices—Mindfulness Process Questionnaire (MPQ)

Erisman and Roemer (2012) defined the mindfulness process as a self-regulatory process, an intentional practice or attempt to bring compassionate awareness to the present moment after noticing attention is elsewhere or that one's awareness has a judgmental quality. The table below provides the Mindfulness Process Questionnaire

scores and rankings for the interviewees. Also provided are the *KindPatientReceptive* scores, Course Instructor Survey items 5, 6, and 7 (CIS_567), along with the interviewee's CIS Score ranking in comparison to the total respondent population (n = 19).

Table 14.11. Mindfulness Practices (MPQ; scale range 1 -5)

Interviewee	MPQ*	Rank (n = 19)	CIS_567 (Rank)
Numbers to Chaos	3.43	5	4.93 (1)
Gender and Sexuality	3.43	6	4.91 (2)
Sustainability	3.14	10	4.66 (7)
Art of the Uncanny	3.14	11	4.84 (3)
Argumentative Writing	2.57	17	4.35 (14)
Mexican Catholicism	2.43	18	4.10 (17)

*Average = 3.20

In the table below is a list of the interview questions and a selection of the MPQ-affiliated questions used to frame the assessment of mindfulness practices. Any interview response that provided evidence of an association with mindfulness practices, particularly if they were related to openness, self-awareness, and acceptance, were considered for this variable. Also, follow-up questions, a rich data source, are not included in the table.

Table 14.12. Interview Questions Affiliated with Mindfulness Practices (MPQ)

Interview Questions	MPQ (Appendix B)
Describe a time when you were dissatisfied with your response to a student's question.	8
How do you deal with distressing or disturbing thoughts you may have during a class session?	3, 4
Describe a time in class when you realized your thoughts and feelings about a student in your class might be impacting your instruction.	1
Tell me about a mistake you made in class.	1
Describe a time when you noticed a student's reaction to a point you were making in class that might demand attention.	7

Numbers to Chaos was the only respondent who claimed to pray or meditate for more than 10 hours a week (see Table 4.13). She also shared that she ran a lot, "40 miles a week" and that she also make sure to take "guilt-free" breaks that included time to play music four or five times a week for 45 minutes, attend church, and as she referred to it, "Bible stuff." In fact, her tendency, which she confessed to in relation to handling difficult questions and based on my observations in the course our interview, is to routinize long, seemingly contemplative pauses. That said, when asked how she dealt with disturbing or distressing thoughts in class, *Numbers to Chaos* said, "I just usually choose to stop thinking those thoughts."

Gender and Sexuality, on how she brings herself back when she catches herself engaging in tangential thinking, stated that, "I guess it's really just a process of trying for lack of a better word. I have a purpose for being there, I have something I have to do while I'm there, if I have to sit there and take a deep breath and remind myself okay back to the lesson plan, then that's what I have to do."

Sustainability spoke of a more labored approach to her mindfulness practices. She recalled when she had received reviews on a journal article and one was poor, while the others were good. Initially, she might "walk through a couple thoughts that are sort of routine like okay you know what's the actual data two good reviews, one bad review and then I actually address the comments. I can address most of them. I can address all of them. I can have the conversation with my adviser and move forward so it's like related to action to try and get past what felt like a blow to my confidence. Um, and then I reach out to people that I know have been through similar things that um, at least I think have some respect for me too. So, they'll have an open conversation like 'Okay, let's talk about this openly.' Like how much of it is true like is it really poorly written. Is it really poorly conceived and then beyond that like is this catastrophic like you should not be in academia kind of thing. No, probably not."

Art of the Uncanny tended to frame all thought-related questions in the context of being disturbed not about her own thoughts per se, but rather about being distressed about "ontological questions" that revolved around how her students tended to equate understanding with knowledge. In large part, this was due to her concern that their dependence on technology provided easy access to information, which could negatively impact their ability to engage with the course content, and their appreciation of their own "here-and-now", which is "about being present, being self-reflective."

Argumentative Writing, when asked how she dealt with disturbing or distressing thoughts, recalled a time when she was concerned about missing the last bus that she needed to catch in order to arrive to class on time. "I decided to walk/run to campus instead, and came in sweating and puffing more than 5 minutes after class was set to begin. For a few minutes I felt really self-conscious about the fact that I had set a bad

example, not to mention the pumping of my heart and the beads of sweat running down my temples. I didn't even have the right number of photocopies for writing the evaluations for student oral reports. Still, once I started up the power point presentation (I prepped a really short, basic one for each Friday discussion) I felt like, ok, no matter what I feel like inside right now (flustered, embarrassed) I can still follow through on the material I prepared beforehand in a moment of calm and collection."

Mexican Catholicism, as you may recall, attempted to use humor to deal with his thoughts. Also, when engaging in an informal ensemble, if he found himself getting frustrated with less-skilled musicians, he would remind himself that "he was actually a pretty good musician" and that other players in the ensemble might not be as skilled. Those reminders tended to help him get past his frustrations.

Effective mindfulness practices were part and parcel of each teaching assistant's toolbox. However, the implementation and effectiveness of the individual processes used to enable one's return to the present teaching moment may be more difficult to assess. Each teaching assistant seemed to have effective approaches, but in the case of the *Art of the Uncanny*, one can't help but wonder whether distress about student's technology use and how that use might impede learning is an effective approach to managing one's own thoughts.

Teacher Concerns—Teacher Concerns Checklist (Impact)

The Teacher Concerns Checklist was designed to assess what new teachers were concerned about or focused on as they entered the teaching field. An impact-oriented concern implies a focus on student learning. The table below shows interviewee rankings based on their teacher concern-related survey responses. Also provided are the *KindPatientReceptive* scores, Course Instructor Survey items 5, 6, and 7 (CIS_567), along with the interviewee's CIS Score ranking in comparison to the total respondent population (n = 19).

Table 14.13. Teacher Concerns—Impact (TCC; scale range 1 -5)

Interviewee	Teacher Concerns*	Rank (n = 19)	CIS_567 (Rank)
Argumentative Writing	3.73	4	4.35 (14)
Sustainability	3.73	5	4.66 (7)
Gender and Sexuality	3.73	6	4.91 (2)
Mexican Catholicism	3.60	7	4.10 (17)
Art of the Uncanny	3.47	13	4.84 (3)
Numbers to Chaos	2.47	19	4.93 (1)

*Average = 3.52

In the table below is a list of the interview questions and a selection of the teacher concern-affiliated questions used to frame the assessment of an impact, or student learning, orientation. Any interview response that provided evidence of an association with teacher concerns, especially if it dealt with student learning, was considered for this variable. Also, follow-up questions, a rich data source, are not included in the table.

Table 14.14. Interview Questions Affiliated with Teacher Concerns (TCC)

Interview Questions	TCC (Appendix F)
How do you react when an English as a second language student asks a question that you can't understand even after they repeat their question two or three times?	9, 10, 11, 12
Describe a time when a student or students were being disruptive.	6
Describe what you do to help your student value *learning*.	1, 3, 9, 10, 12, 15
Tell me how you know your students can apply what they learn in your class.	14

Argumentative Writing's background includes work as a writing tutor. This past, and her appreciation of the need to appropriately frame student interactions so as to encourage growth, is reflected in her e-mail responses to the interview questions. Here is what she wrote about working one-on-one with challenging students: "I would begin by reminding myself that their misbehavior was usually a product of their struggles to adjust to the rigors of college or understand what was expected of them, rather than an act of willful defiance—Who knows if this is always true, but it helps me be a better instructor if I believe it—Then I would practice framing the specific problem in terms of how it would hurt the student's success in the class, sanitizing it of any taint of my own feelings. For instance, I was privately furious when a student did not turn in her essay on time and then lied to me about having emailed it. I felt it was important to my authority that I confront this student with the evidence of her lie. But having done so I quickly shifted the conversation to focus on how I could help her succeed if only she were prompt and honest about revealing her struggles next time."

Sustainability had the most teaching experience (6 - 10 years) of all interviewees. Her infectious enthusiasm, perhaps inflated just a bit due to being in the last trimester of pregnancy, comes through as she talks about her class, "I think the class that we TA for is really, ah, it really lends itself to talking about scientific method and critical thinking skills. And, so I am just really excited about student's learning to be better critical thinkers. And, I really respond and students are curious; I think I praise that a lot."

When the interviewer asked, "A lot?," she said: "Um, maybe too much I don't know. But I tend to get really excited as a student ask, curiosity driven question. I'll say 'I love that you're really excited about that. Um, you know that's the kind of question that drives you know scientific discovery. You know, glad that you had that question. Does anybody else have other questions like that'? Sustainability's narrative of praise geared to focus on the quality and nature of the questions certainly suggests a focus on student learning.

For *Gender and Sexuality*, "teaching is activism." She contended that the way she conducts discussion is "very different then I think a lot of the other TAs do." She usually opens her class with "relevant clip of spoken word poetry," afterwards debriefing the class on why a particular selection was chosen. She also contends that she teaches the class "based on value in a lot of different styles of learning." For example, she will occasionally interject historical background or other perspectives by way of mini-lecture lectures into the discussion sections, but tends to let her students drive the process; "for the most part the students don't so much ask me questions but pose the questions to the group." She also shared how she addressed a challenge with a student she described as "surly," and "alternative," based on his age—"forty-eight" she believed, and shared without prompting. His normal demeanor in the circle configuration of the discussion

section was to sit with his arms crossed and "looked like he had a lot to say but obviously was not saying it". The situation with the student was further complicated by the fact that the student had a relationship with the course instructor that the teaching assistant had mixed feelings about, "he and the professor have a banter going on that sometimes I find slightly unprofessional, but you know they have fun. They go back-and-forth." After one extended two-week period of silence, she eventually was able to speak to about her concerns. Their interaction seemed to breed a sort of familiarity. For example, she noted, "And so we talked about it, and after we talked about it, he started participating in class again. Now if I hear something that I know is going to piss him off, he sits next to me, and during lectures in the front row, but if I hear something that I know is going to piss him off I just look at him and give him like a "Calm down, I got you" glance. Because normally, it's the same stuff that would piss me off. I am twenty years younger than him, but we have the same life experiences that would piss us off in terms of the class." The student-driven discussion process along with her ability to recognize her own cognitions, in regards to her feelings about the student-instructor interactions and her evolving relationship with the "surly" student, suggest a learner-focus.

Mexican Catholicism, when asked how he knew that students could apply what they learn is his class, shared that he provided very specific and general feedback to student's writings and that he "really did notice their writing improve a lot." Even though he had very little training in writing assessment, *Mexican Catholicism* incorporated a peer review into the section's writing assessment, integrating a rubric as process guide, to give them a sense of "formal grading." When asked how he had come to know about the peer review process, he claimed to just be "winging it."

Art of the Uncanny, when asked how she knows students can apply what they learn in her class provided the following: "Well, certainly the first reflection is always going to be in the essays themselves. But I also find that as time progresses throughout the semester, the ideas generated in class, and emerging from the students become more profound. I think it's a twofold thing. I think that one is that they become more comfortable with one another, and they become more comfortable with the idea that literary analysis is subject, it's not a right or wrong, it's about validating your ideas. And I always, even if it's an idea in class I don't agree with, I encourage them, and they realize right away that they're not going to make mistakes in the classroom, as far as I'm concerned. So, they get more and more comfortable, they're willing to engage more. Secondly, just by sheer, being so intrinsic, being in the text, being in it, I demand it in the writing, I want quotations, I want it derived from the text. They become much more comfortable with the idea that they're not actually going out on a limb, they're actually deriving their ideas from the texts themselves, and it's actually much safer." Clearly, based on this artifact, she is learning-focused. Her desire for her students is to delve deeply into the readings and not simply use quotations, but "to get them to, to get their ideas and their thoughts to be emerging from the text itself, and to really have an appreciation for what an author's doing, and what a text is doing, and what an art is doing as a cultural representation, not only at that particular time period it's written, but its potential to have effect on them at the time they're reading it."

Numbers to Chaos, when asked how she knew that her students could apply what they learned in her class, stated that "most of them honestly probably couldn't apply what was done in the class um, just by visual, material that was chosen and stuff like that um, because it didn't end up being particularly -- I end up being mostly being mathematical."

She did concede though that perhaps the papers that the class had to write may have been of benefit to the "engineers or Science majors," since the class had to write three papers and "definitely the third one was a lot better than the first one."

Self Compassion—Self-Compassion Scale (Short Form)

As previously noted, the Self Compassion Scale is comprised of three factors: self-kindness, common humanity, and mindfulness (Neff, 2003a; Neff, 2003b). The table below (Table 14.15) reflects interviewee scores and rankings on the Self-compassion Scale. Also provided are the *KindPatientReceptive* scores, Course Instructor Survey items 5, 6, and 7 (CIS_567), along with the interviewee's CIS Score ranking in comparison to the total respondent population (n = 19).

Table 14.15. Self Compassion (SCS-Short; scale range 1 -5)

Interviewee	Self Compassion*	Rank (n = 19)	CIS_567 (Rank)
Numbers to Chaos	4.17	2	4.93 (1)
Argumentative Writing	3.33	8	4.35 (14)
Sustainability	3.00	12	4.66 (7)
Gender and Sexuality	3.00	13	4.91 (2)
Art of the Uncanny	2.67	14	4.84 (3)
Mexican Catholicism	1.92	16	4.10 (17)

*Average = 3.07

In Table 14.16 below is a list of the interview questions and a selection of the self-compassion affiliated questions used to frame the assessment of the teaching assistants' self-compassion. Any interview response that provided evidence of an association with self-compassion was considered for this variable. Also, follow-up questions, a rich data source, are not included in the table.

Table 14.16. Interview Questions Affiliated with Self-compassion (SCS)

Interview Questions	SCS (Appendix E)
Describe a time when you were dissatisfied with your response to a student's question.	1, 10
How do you deal with distressing or disturbing thoughts you may have during a class session?	7
Describe a time in class when you realized your thoughts and feelings about a student in your class might be impacting your instruction.	2, 11
Tell me about a mistake you made in class.	5
How do you take care of yourself?	6, 7
How are you kind to yourself?	6, 7

Numbers to Chaos was the only interviewee who did not seem to stumble on the question: How are you kind to yourself? Her response: "Well, I try to be kind of aware of what I'm thinking sort of, um, so uh, I try not to be overly self-critical. I mean, so if I actually uh, maybe I made a mistake, you know, I definitely want to correct it but I don't want to like beat myself up for things, you know. Um, so I tell myself, 'Be kind to yourself.'" She also noted that she cares for herself by taking deliberate, "guilt-free" breaks, "playing music," and "hanging out with friends."

Most other respondents struggled a bit more with these questions. In particular, when asked how they were kind to themselves, the interviewees responded, "I have no idea." (*Argumentative Writing*); "I don't know…I've never been able to answer this question very well. I've been asked this before." (*Sustainability*); "I don't think that I am." (*Art of the Uncanny*); "I know I was having some trouble with this for a while. But I've felt a lot better about this lately. I've just tried to recognize that—I'm actually—I try to say to myself that I'm actually a pretty good musician. And that's sometimes why I—

I'll get frustrated in ensembles, and I'll be, like, well, I have to remember that." (*Mexican Catholicism*).

On the other hand, *Gender and Sexuality* responded by saying she was kind to herself by "allowing herself to know what" she needs. Yet, when asked how she cared for herself in a previous question, responded, "I'm a grad student, I don't have time to take care of myself. No, I know that's not the answer you wanted to hear." She went on to say she spends a lot of time debriefing with a fellow graduate student who has a lot of knowledge "about education and pedagogy," especially after challenging discussion sections. She also noted that she tends to spend a lot of time alone, reflecting. To counter that, "friends will take me out of the house, but usually that's the of social interaction I'm trying to avoid. They make sure I do it periodically just so they can make sure I'm thinking about something other than school."

Teacher Efficacy—Teacher's Sense of Efficacy Scale (Short Form)

The Teacher's Sense of efficacy Scale was created to assess a teacher's beliefs about their ability to bring about desired student outcomes and touches on the topics such as student engagement, instructional strategies and classroom management (Tschannen-Moran & Hoy, 2001). Table 14.17 below reflects interviewee scores and rankings on the Teacher's Sense of Efficacy Scale. Also provided are the *KindPatientReceptive* scores, Course Instructor Survey items 5, 6, and 7 (CIS_567), along with the interviewee's CIS Score ranking in comparison to the total respondent population (n = 19).

Table 14.17. Teacher's Sense of Efficacy (TSES; scale range 1 - 9)

Interviewee	Teacher Efficacy*	Rank (n = 19)	CIS_567 (Rank)
Gender and Sexuality	7.33	2	4.91 (2)
Argumentative Writing	7.08	5	4.35 (14)
Sustainability	7.00	6	4.66 (7)
Art of the Uncanny	6.58	13	4.84 (3)
Numbers to Chaos	6.42	16	4.93 (1)
Mexican Catholicism	5.92	19	4.10 (17)

*Average = 6.76

In Table 14.18 below is a list of the interview questions and a selection of the teacher efficacy-related questions used to frame the assessment of the teaching assistants' teaching efficacy. Any interview response that provided evidence of an association with the teaching assistants' belief about their ability to teach was considered for this variable. Also, follow-up questions, a rich data source, are not included in the table.

Table 14.18. Interview Questions Affiliated with Teacher's Sense of Efficacy (TSES)

Interview Questions	TSES (Appendix D)
Describe a time when a student or students were being disruptive.	6, 7, 8
Describe a time when you noticed a student's reaction to a point you were making in class that might demand attention.	10
Describe what you do to help your students value learning.	4, 5, 10, 12

Interview questions that framed associated responses had to do with issues that, to some extent, have already been discussed—addressing disturbing behaviors, managing the classroom, and helping students learn to value learning. That said, interviewee responses did provide a rich sense of their approach and passion. For example, *Gender and Sexuality* shared, "I told them on their first day of class, and I had a student tell me in office hours last week that it was one of the coolest things an instructor could have said to her. What I told them on the first day of class was, 'I don't know shit.' I'm learning this material alongside of them. Like yes, this is what my degree is in. I'm not an expert in the field. I am not a scholar. I am someone who likes to learn and wants to learn from them. And I told them that on the first week of class that, 'This is not me teaching at you. This is us learning together.' And that's part of why we sit in a circle and I don't sit at a table in front of the room. I sit in a desk just like the rest of them. That's why I don't put myself in a position of too much authority in the classroom. I learn from them and I want them to recognize that and I think for them, it gives them a sense not only a value in learning but also value in teaching. I told them, and I was very upfront with them about how I teach, what my pedagogy is, what is my process, they know this."

Argumentative Writing spoke more explicitly about how her adherence to the course design provides opportunities for the students to potentially apply what they learn:

"Firstly, in a small Friday discussion section students have the opportunity to practice professional conduct while working on long-term projects. How do you address your superior to ask for clarification, how to respond productively to constructive critique, how do you identify if you need help and go about getting it?

Secondly, the kind of construction and deconstruction of argument we practiced in section and through writing exercises is at the heart of the critical thinking skills we want college students to graduate having mastered.

Thirdly, for a lot of future careers it's important that students learn to write clearly and cogently. UGS knows statistically that UT students come in with fairly robust oral presentation skills and much weaker writing, so writing requires more in-class emphasis."

Sustainability notes that for students that don't have an "abiding interest" in environmental science, she informs them that the course "material will help you think about other material in a similar fashion." For those that are in a related discipline who are expected to follow a similar career line, she reminds them that the course provides "a really good foundation" for their future endeavors.

"That's such a big one for me," said *Art of the Uncanny*, about getting her students to value learning. For her, it was important that her students not only value learning, but that they come to appreciate it more deeply, stressing that, "…it's important for me that they don't see them as, This is my math class, This is my lit class, so forth and so on, but that what we're looking at in lit class can also be a skill-set, or a

knowledge-base that you are taking into not only other disciplines, but the very way in which you engage the world. So, think of it all in the totality of yourself."

Numbers to Chaos suggested that she gets students to value learning by "addressing some of the student's questions," the ones they might have after the faculty member's lectures. You may recall, though, that she felt that her main role as a math teacher was to "manage discouragement." This positioning may provide support to her relatively low efficacy score, per the Teacher's Sense of Efficacy Scale.

By and large, *Mexican Catholicism* maintained, as previously noted, that it was his use of personal anecdotes, along with the anecdotes he conjures after getting to know the students, that help him convey the value of learning.

Based on the narratives culled from the interviews, there were obvious differences among the interviewees in terms of their teaching efficacy. Arguably, this may be due to the type of class for which they facilitate discussion—a math class may demand more mathematical work of a type that isn't well suited for discussion. In a course that emphasizes writing, such as that taught by *Mexican Catholicism*, perhaps it's more valuable that they receive the type of individualized feedback that is currently provided. On the other hand, it seems that those teaching assistants that most value learning, that have a stronger sense of teaching efficacy, have more refined goals and expectations for learning and of their students.

Qualitative Data Analysis—Knowledge of Cognition & Regulation of Cognition

There are two main constructs associated with Metacognitive Awareness, Knowledge of Cognition and Regulation of Cognition. Below, based on their narratives, I will provide some general observations about the interviewees' approach to their teaching practices that are well-suited to a metacognitive-oriented analysis. The two constructs, Knowledge of Cognition and Regulation of Cognition, are comprised of various subcategories, listed below:

Knowledge of Cognition

1. Declarative knowledge: knowledge about one's skills, intellectual resources, and abilities as a learner.
2. Procedural knowledge: knowledge about how to implement learning procedures (e.g., strategies).
3. Conditional knowledge: knowledge about when and why to use learning procedures.

Regulation of Cognition

1. Planning: planning, goal setting, and allocating resources prior to learning.
2. Information management: skills and strategy sequences used on-line to process information more efficiently (e.g., organizing, elaborating, summarizing, selective focusing
3. Monitoring: assessment of one's learning or strategy use.
4. Debugging: strategies used to correct comprehension and performance errors.
5. Evaluation: analysis of performance and strategy effectiveness after a learning episode.

(Schraw & Dennison,1994)

Although this analysis may touch on the subcategories, the primary focus will be on the two umbrella categories. Also, although the inventory was created as means of measuring learning, not teaching, one might be well-served to recall the following admonition to her students from *Gender and Sexuality,* "This is not me teaching at you.

This is us learning together." A perspective that recognizes the evolutionary approach to learning, and teaching, seems to be well grounded in the ongoing nature of knowledge acquisition—as a learner and teacher.

Three interviewees, *Gender and Sexuality, Art of the Uncanny,* and *Argumentative Writing,* stressed their understanding of the need to be flexible in terms of their access to students. They seemed to appreciate the need to interact with their students outside of scheduled office hours, and perhaps at a coffee shop rather than the office, which is where *Art of the Uncanny* was meeting a student after our interview. In fact, *Gender and Sexuality* spoke about how important the interactive process was to her as a teacher. She spoke about how she had two students, "One is a critical race theorist student who mentioned that, you know, said he didn't like cops," and the other "is a non-traditional student, she's an older lesbian student and we've just really bonded as under a professional about interactions but she comes to office hours and we discuss course related material." She goes on to characterize the exchanges as "dialogues about specific moments in class." These procedural knowledge processes, that learning exchange might best occur outside of the classroom, through dialogue, serve as examples of Knowledge of Cognition.

The three of them, *Gender and Sexuality, Art of the Uncanny,* and *Argumentative Writing*, seem to have a good sense of what it means to engage in the teaching process. They each had high expectations, but those were grounded by the amount of work they know is required to learn to critically analyze one's speaking, one's writing, and one's thinking.

Numbers to Chaos, on the other hand, may appreciate the need for classroom work in a different way. She sees the classroom as a place where the work is done, where

the math occurs. She seemed resigned that, in her role as a teaching assistant, she was to answer questions, and help conceptualize problems, but not necessarily to teach. Yet, she did offer up how she might enhance learning and student motivation were she in control of the class: "I would like the students to kind of do test corrections and everything that they missed points on and analyze their errors kind of as careless, lack of knowledge or like lack of understanding. It seems like most errors didn't fall under one of those three categories. Um, and then I actually write up the correct solutions." Her suggestion, that students "analyze their errors kind of as careless, lack of knowledge or like lack of understanding," suggests an appreciation of procedural knowledge, as well. She also maintained that she spends 2-3 hours preparing for her discussion class—perhaps evidence of regulation of cognition. Additionally, she spoke of a variety of mechanisms she uses to teach. For instance, she will prepare slides to support her lectures, and then also write down "pretty much everything." In another scenario, she talked about how she used Hershey's candy bars in an interactive classroom demonstration of a mathematical structure. Given that the example she provided was not very specific, the mention of the exercise might suggest the early stages of a developing appreciation of both conditional and procedural knowledge.

Mexican Catholicism, based on his comments, seems wedded to the monitoring subcategory of the Regulation of Cognition. He referenced his own depression, the humor he uses (but did not display), when he realizes he might be down, and his post-course knowledge that he should have managed a student's behavior better. I asked him what his reaction had been to an event he provided, one in which a student had disagreed with his cultural analysis. At that moment, he couldn't provide any sense of how he had actually reacted. Instead, the dialogue in the following example provides evidence of the tentative

nature in which he might address a student's reaction to a contentious point, "I would try my best not to confront the student about it as though I'm going to fix you, but more like, Can you explain your point, maybe? " Given the context, the words "try" and "maybe", along with the positioning implied by "confront" and "fix" suggest that more self-awareness might be in order. I do not doubt that he is, as he contends, a fine musician, but, and this speculative, perhaps in the process of becoming a fine musician he encountered corrective instruction during years of rehearsal or practice that has molded his instructional thinking. That said, he availed himself of observation and feedback services provided by instructional support staff from the School of Undergraduate Studies. He said that the follow-up interview, "didn't feel so much like a meeting as sort of like a chat. I sort of explained stuff about music; people's perceptions of it. It was just like real sort of informal." At a minimum, this suggests some resource allocation or planning—the regulation of cognition, and, because he sought out the services, declarative knowledge—he was questioning and growing his abilities as a teacher. It also suggests openness to learning, perhaps evidence of declarative knowledge—knowledge of cognition, based on his personal analysis and acceptance that that his teaching might benefit from the observation process.

Somewhere in the middle of this mix, if we were to compare, is *Sustainability*. She clearly knows education and has figured out how to convey her knowledge of engineering to the geology classroom. Her enthusiasm for teaching and for consciously choosing to not live a regretful life is contagious. As she says, "I'm just happy to be here every day and have like work that I love." She also said that when she wakes up—recall that she was in her last trimester of pregnancy; and, she is also a doctoral candidate—she "can't wait to do my research and I really like the students I teach and the people I work

with." She also likely benefits from her father being a "special education teacher." Her positioning in regards to that came through when I asked her how she met the learning needs of her students, "it feels like a very homogenous like class of learning needs with respect to they are not very many special needs that are out there. My dad is a special education teacher. So, I feel like I'd bring that in the conversation only to say most of the students I see all have -- more of less within some standard deviation the same capacity to learn." She also suggests to students that their grades could benefit from a visit with her during office hours or methods to approach assignments. While this approach could rightfully be construed as extrinsic, due to its focus on grades, she tends to offer the additional support to those "who are trying really hard but still not doing a good job in terms of meeting the expectations." Overall, her approach seems solidly grounded in a knowledge of cognition, one geared towards encouraging students to become better at regulating their own cognition.

All the interviewees reside somewhere within the metacognitive awareness continuum—that nebulous place that represents one's knowledge of and regulation of learning. In the course of our interviews, there were often times, for each of them, when I considered what it might be like if they were my teacher. They each expressed, in their own way, a love of learning. They also willingly agreed to a risky interview process with a stranger to explore their teaching thoughts, fears, concerns, challenges, and successes. If nothing else, their willingness to take the time to allow us to explore their teaching thinking testifies to their desire to learn.

Chapter 5: Discussion

This study examined whether several variables, trait mindfulness, mindfulness practices, self-compassion, teacher efficacy, or teacher concerns, as measured by their associated scales, were predictive of components of a teaching assistant's student evaluation ratings. In addition, qualitative data obtained through several face-to-face interviews were analyzed using the same scales, as well as two metacognitive constructs—knowledge of cognition and regulation of cognition—as interpretative filters.

RESEARCH QUESTION 1

Which of the variables—trait mindfulness, mindfulness practice, teacher's sense of efficacy, self-compassion and teacher *impact* concerns—are good predictors of positive responses on the CIS measures of teaching qualities of kindness, patience and receptiveness?

None of the variables—trait mindfulness, mindfulness practice, and teacher's sense of efficacy, self-compassion, or teacher *impact* concerns—significantly predicted the targeted Teaching Assistant Form 50 construct—*KindPatientReceptive*. There are many possible difficulties with the quantitative data which might have been the cause of causes of this failure to find significance in the quantitative data.

1. The small sample size was a limit to power and ability to find the probable small but significant differences. It is important to note that the population of graduate student instructors teaching the targeted undergraduate courses numbered a total of only 120, a number that would have been adequate if not for the problems with instrumentation discussed below. In addition, the participants were volunteers, not

required to participate. It is difficult to engage students in a research proposal of this type, especially when it may be perceived as a threat to a continuation as an instructor. Contacting existing support personnel and establishing trust went a long way in providing supportive student access. However, the extra step of having to clear all messages through program administrators hampered graduate student engagement. For instance, the initial call to participate was sent the day of the Sandy Hook Elementary School shootings, just after the beginning of the holiday break in mid-December 2012. This was clearly not an optimal time to solicit student survey responses. Had I control over dissemination, the call for participation would clearly not have been distributed at that time. Participation doubled when a second call, in conjunction with an increase in gift card amount, was sent approximately 6 weeks later.

In addition to the administrative issues, the graduate students themselves were busy. Besides their responsibilities as teaching assistants, they were also graduate students developing expertise in their respective fields. The work of leading discussions coupled with the usual course demands, not to mention life itself, could have made the thought of squeezing in time to respond to a survey, much less time for an interview with a stranger, seem daunting. Perhaps the time issue, couple with buffered access to the overall targeted TA population of 120, helped to limit the number of participants.

2. There were numerous instrumentation issues that could not be predicted in advance. For example the dependent measure itself, Teaching Assistant Form 50 construct—*KindPatientReceptive* — was troublesome, and not just because it is a concatenation of three arguably non-observable behaviors—kind and respectful, patient with questions, and receptive to questions. In particular, the dependent measure scores were very restrictive, likely because the teaching assistants in the study were among the

very best (a frequent problem with volunteers), which made it difficult to parse out differences; recall that the mean for the CIS_KindPatientReceptive Scores was 4.50 with a standard deviation of 0.31. In addition, these scores, instead of being a self-reflection by the teaching assistant of their teaching behaviors, were student-provided ratings. There is some question of on what basis those undergraduate students were responding to those items. Although this derived score had a high reliability level, there is always a question about student surveys of teaching.

There was an obvious problem with the Teacher Self-efficacy scale reliability. Had those results been significant they would immediately be called into question. In fact all the scales used in the study, with the exception of the outcome measure, come from well-researched and published studies with good psychometrics obtained during testing. And yet there were questions about the accuracy of the items in general as reflective of the constructs they were said to represent. There might also have been the problem that some needed to be altered slightly to fit the population.

Finally, since all but the outcome measures were self-report, this is a common concern in research of this type. Where these graduate student instructors responding honestly or were the circumstances perceived as possibly compromising? As noted earlier, their continuation as instructors is dependent upon their student ratings.

3. Perhaps the most difficult potential problem, as discussed earlier in the literature review, arises in the nature of the construct mindfulness. Whether one accepts the Bishop et. al. (2004) definition, that mindfulness is characterized operationally by "the self-regulation of attention so that it is maintained on immediate experience" and the adoption of "a particular orientation toward one's experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance" (p. 232) or the

Baer (2003) contention that mindfulness-based interventions focus on the development of "inner experiences of the individual (e.g., thoughts, emotions) and emphasize a less-goal oriented, nonjudgmental observation" (p. 126), it is not clear that the survey tools used were able to accurately capture this.

Two other issues related to the construct may have impacted the results. First, many of the other studies were performed with populations that were undergoing a treatment intervention that included training in mindfulness-mediation. Among the studies previously referenced are Dialectical Behavior Therapy (DBT), (Linehan, 2006), Mindfulness Based Stress Reduction (MBSR) (Kabat-Zinn, 1982; Kabat-Zinn, Lipworth, & Burney, 1985; Kabat-Zinn, Lipworth, Burney, & Sellers, 1987; Randolph, Caldera, Tacone, & Greak, 1999), and Mindfulness Based Cognitive Therapy (MBCT) (Kuyken, 2008; Segal, Germer, & Olendzki, 2002; Teasdale et al., 2000; Teasdale et al., 1995). However, recall that although Chiesa and Serretti (2009) performed a literature search discovered 150 articles that purported to study healthy subjects, only 10 of those met the robust criteria that allowed them to be included in their study, and one of the criteria for inclusion was that there had to be a MBSR component within a referenced study. Also, in Eberth and Sedlmeier's (2012) meta-analysis of nonclinical research studies, participation in a mindfulness meditation treatment was one of six criteria needed for inclusion. And, in 2011 Black's suggested that the various mindfulness allow for the mindfulness to be operationalized (and measured) as either a trait, a state of awareness resulting from mindfulness training, or the practice of mindfulness meditation itself. For the current study, there was no requisite that participants have any meditation history or engage in mindfulness practices.

Second, the fleeting nature of the teaching moment, and the possibility that the best of those moments, shared between a student and a teacher, or maybe students or teachers, is difficult to capture, define or articulate. Several questions arise: Does Black's (2011) contention about what is shared among all definitions of mindfulness—"general receptivity and full engagement in the present moment" (p. 1)—necessarily explain mindfulness in teaching? Does that definition capture what Schön (1983; 1987) referred to as "reflection-in-action" or what Van Manen (1995) described as the "immediate 'reflective' awareness that characterizes, for example, the active and dynamic process of a class discussion" (p. 34)? Is mindfulness in teaching different than mindfulness? If so, how? If Schön and van Manen's position is accurate, then there is an immediacy and inimitability to reflective teaching that is contingent on one's ability to be aware of and negotiate the teaching moment as it arises. There seems to be inherent difficulty in extrapolating from that engagement, that moment of unique teacher-student(s) exchange—a collaborative event, to what may be characterized as an individual teaching assistant's trait mindfulness, regardless of mindfulness meditation history, training, or practice.

RESEARCH QUESTION 2

Do those TAs that receive higher CIS scores described above practice mindfulness?

Given that the research question was originally conceptualized to also examine the expected relationship between mindfulness practices as determined by the scores on the Mindfulness Process Questionnaire and ratings on the teaching assistants' course evaluations, the partial answer to this question is no. As noted above, the quantitative data showed no significant relationship between these two variables. As discussed in the first question summary, the surveys used in the study might not have been able to detect

small effects due to restricted range of the CIS scores found or individual interpretations of the questions and the small sample size.

However,, while none of the teaching assistants in the study acknowledged participating in any explicit mindfulness practices, they did share tales about how they crafted or managed their internal dialogues. This was an attentional and intentional mechanism used by some to note self-narratives, and then change those narratives if deemed non-productive. For instance, one of the teaching assistants, *Mexican Catholicism*, used humor as a means of managing his own depression while teaching. *Sexuality and Gender* learned to recognize when a student's personal narrative might be counter-productive to class dynamics, redirecting her class discussions when course goals were not being met. *Numbers to Chaos* shared that she was "a little tensed" about an interaction she had with a student she caught cheating, and how that caused her, during the rest of that particular class, to "make fewer jokes." Another teaching assistant, *Art of the Uncanny*, seemed very mindful of the words she chooses to define her thinking. When the first question of the interview, "So, tell me about a time you were dissatisfied with your response to a student's question" was posed, her response was, "These are going to be tough! Um, dissatisfied. That's an interesting word. Um, I resist saying that I'm dissatisfied."

RESEARCH QUESTION 3

If TAs do practice mindfulness, in what way, and how frequently?

As above, it is difficult to say. Given the limits of the Mindfulness Process Questionnaire (MPQ), which may be an effective measure of one's holistic and routine mindfulness practices, there is an assumption that one's self-oriented mindfulness is the same as learner-oriented mindfulness practices. Based on the interview analysis, one

could score well on the MPQ, as *Numbers to Chaos* did, but not necessarily convey a parallel level of mindfulness when responding to interview questions about her teaching practices. That said, *Numbers to Chaos* was the sole interviewee to allocate 6 – 10 hours a week to self care: she ran 40 miles a week, plays music 45 minutes a day four to five days a week, attends church, interacts with friends, spends time with friends, or on the phone with her family, and also reads her Bible. As part of her routine, she also prepares food for the rest of the week. And finally, and perhaps most importantly, she was the only interviewee who shared that she did 2 -3 hours of preparation for her class. Perhaps the type of instruction she delivers demands a different approach than the learning that is primarily couched in either written or verbal dialogue. Does an effective math teacher, who is a teaching assistant for a class called "*From Numbers to Chaos*," require a different sort of mindfulness than that required of an effective teaching assistant who facilitates a class that develops young students' understanding of art that seems familiar, yet disconcerting?

RESEARCH QUESTION 4

How do the TAs' metacognitions related to their classroom mindfulness practices inform their discussion facilitation?

The thoughts they shared about their teaching practices were illuminating, but it is likely that even though an interview can provide a potentially more accurate glimpse of one's teaching cognitions, other data points should be incorporated, as well. To a large extent, this research question is addressed in the mindfulness practice section of the qualitative data analysis section of this study (see Table 14.15).

To summarize those data, recall *Gender and Sexuality* and *Art of the Uncanny* and their approaches to thinking about learning. *Gender and Sexuality* would talk with her

pedagogy-friend about her class, and meet with various students during office hours to discuss class interactions. *Art of the Uncanny* chastised herself a bit because she realized that her willingness to meet with her students to discuss class concepts might be getting in the way of her own work But, as she said, it tends to be very difficult for students to penetrate beyond the initial, emotive reaction to a text," to consider that the "words [of a particular text] are chosen for a reason and are shaping their perception." As previously noted, *Gender and Sexuality* regularly deals with issues, some of them planned, others not.

Sustainability and *Argumentative Writing*, although they convey a strong sense of competence and are deliberate in their teaching, may not delve as deeply into philosophical deliberation. The description of their classes seemed more straightforward. One class debated and worked towards developing a core understanding of the processes that impact the environment, while the other laid the groundwork for more effective writing. The overriding purpose for both classes seemed to be the conveyance of information or skills, not necessarily the changing of minds.

At the other end, based on what was shared, *Numbers to Chaos* and *Mexican Catholicism*, spent more time taking care of themselves than their classes. The instructional level of investment did not compare well, based on their narratives, with what the other instructors conveyed. That is not to say that they weren't invested; it may simply be that their investment was of a different sort, one that still fit their students' needs, but that they were not able to express in the course of our interview.

SUMMARY OF THE FINDINGS

The clearest finding was that traditional conceptions of mindfulness are proving unproductive in understanding the experiences and strategies of graduate teaching assistants as they lead undergraduates in the critical thinking of a discussion class. That is shown by the richness of the qualitative data and the thinness of the quantitative. Given the reliability and validity of the instruments used in the regression analyses, not being able to detect any relationship between those attributes and the student evaluation data is concerning. The qualitative data provided a much sharper sense of potentially effective teaching practices.

Schön (1983) suggests that there are four types of reflective research that could be used to enhance a practitioners capacity for reflection-in-action; frame analysis—an awareness of and criticism of ones' tacit frames with which we perceive the world, analysis and description of the exemplars, strategies, and schemes that we can add to our repertoire, research on methods of inquiry and the overarching theories of phenomena, and research on the process of reflection-in-action itself (p. 309). Throughout this process, similar perspectives grounded in my understanding of trait mindfulness, mindfulness practices, self-compassion, self-efficacy, and learner-focus, have provided me direction.

Although the regression analyses showed no significant findings as to whether the variables—trait mindfulness, mindfulness practices, teacher concerns, self-compassion, and teacher efficacy—could predict one's result on a student evaluation, the interviews did reveal some treasures. It is clear, for instance, that some of the teaching assistants were better able to describe both their teaching cognitions and their teaching activities. Using the scales as a frame through which to analyze the interviews, I could interpret trait

mindfulness, mindfulness practices, teacher concerns, self-compassion, and teacher efficacy from the teaching assistant narratives, from the dialogue.

In fact, had a survey score showed that one who was learner-oriented, self-compassionate, efficacious, or mindful could be a significant predictor of three concatenated evaluation ratings that were designed to analyze constructs like kindness, patience, and receptiveness, I am not convinced that that knowledge would tell me anything about how that teaching assistant teaches, or what they think about their teaching.

If I relied on survey data, for instance, I might not contend, as I now do, that *Gender and Sexuality* and *Art of the Uncanny* exemplify Schön's (1983) reflective practitioner —someone who is willing to question her own frames, and then invite space for a "suspension of disbelief," a place where the student is aware of the teacher's willingness to appreciate the potential impact of the consideration of new learning on the student. As Schön says, it's a process of communication that is supposed to lead to a fuller understanding of one another's meaning, and on the student's part, to an acceptance of the manifest evidence of the professional's authority, that can only begin with nonunderstanding and nonacceptance—a suspension of disbelief. Schön goes on to call it a reflective contract, and that may be the essence of what surveys and perhaps even interviews cannot measure, that student-teacher agreement, the co-journey (pp. 296-297).

LIMITATIONS

There are some inherent difficulties in constructing a study of this nature. Most of the difficulties have been articulated in the discussion of the quantitative data but are repeated here for emphasis. The difficulty of recruiting participants in an exploratory

study of something as personal as one's teaching persona has been roadblock for quite a while in research on teaching. The same can be said of research on personal qualities such as mindfulness. Finding a way to measure these difficult to articulate qualities and respecting the individuals' self-perceptions often leads to murky measures that are prone to multiple interpretations. The advantage of qualitative methods in this area allows the participants to give their own stories and leaves it to the researcher to find categories and themes to fit them. Nevertheless, the richness of the qualitative data suggests that it is worth continuing to pursue in order to capture the qualities of the intersection between teaching and self-awareness.

A second limitation of the study was that the scales used were designed to measure constructs that may or may not reflect effective discussion facilitation in a college classroom. There is a personal nature to the FFMQ, the MPQ and the Self-compassion scale that appears to validly and reliably measure one's trait mindfulness, mindfulness practice, and one's self-compassion, but it has not been established that these are necessarily related to one's professional teaching effectiveness. Another problem with the scales is that the Teacher's Sense of Efficacy Scale was originally designed for preservice teachers who were teaching in elementary schools. The scale was modified for the current study to be more appropriate for the graduate student teachers in a postsecondary environment, (See Appendix D), but further refinement and validation of these scales for that particular setting is needed. Lastly, the Teacher's Concerns Checklist was originally designed to examine a preservice teacher's concern focus—self, task, or impact. For this study, the self and task concerns questions were not included. In retrospect, given the information shared in the interviews (i.e., *Mexican Catholicism's* need for self-care to deal with depression, *Argumentative Writing's* targeted methodology

for teaching, and *Numbers to Chaos'* contention that many student would not be able to apply what they learned outside of class), it might have been helpful to obtain the scores for those portions of the overall scale to see how and whether the self, task, and impact scores were interrelated.

In short, there were several limitations to this study. Among them were:

1. The difficulty of finding quantitative measures for such a widely varying outcome as mindful teaching remains. The attempt to combine items from the student evaluation data into a contrived scale score was ill-informed. Maybe any attempt to provide a single number to evaluate teaching is doomed. Even if the predictors had been significant, all they may have conveyed is how kind, patient, or receptive to questions a teaching assistant might be, not how well they might teach. Much more research is required to capture the nature of teaching, if it can be captured in a survey format at all.

2. The scales used were reliable and valid measures, but were they really measuring constructs that provide insight into effective, learner-oriented instruction? In fact, building upon this study—using the scales as a guide, but informed by the qualitative data—may be a viable launching point for the creation of a better means for determining teacher effectiveness and areas for development.

3. The sample size was very small, which created difficulties in analysis. That said, the interview data were abundant. Given how difficult it is to get teachers at any level to participate in research, the institution must create and nurture an environment that welcomes and encourages reflection-on-teaching.

Time spent engaging in research, particularly if it may inform teaching and learning practices, must garner positive notice and support from deans and department chairs.

4. A classroom observational component could have provided an additional data source. Although an observer's presence could impact a teaching environment, data interpretation would not have been so bounded by and limited to the interviewees' words. Observations can provide a sense of student and teacher interaction, and student engagement. What the interviews provided, in this study, is the narrative frame used by the teaching assistants to recall or conjure specific teaching moments. For some, engaging in the construction of knowledge as part of an interview dialogue may be enough to initiate their own reflection-on-teaching. Others, until observed, may not be aware of their own good teaching practices. For instance, a UGS observer told *Sustainability* that she was practicing "scaffolding," a word, and a concept, that had previously been unfamiliar to her. Observations, like interviews, can be a means of revealing strengths.

IMPLICATIONS FOR INSTRUCTIONAL SUPPORT

Perhaps the most interesting suggestion for instructional support from this study is that the School of Undergraduate Studies (UGS) should consider revamping the makeup of the TA cohorts by making them more homogenous, that is, by grouping the teaching assistants by discipline. The interviewees each suggested that might be a helpful approach. My own successful experiences as former coordinator of the Graduate Student Instructor (GSI) Program included having teaching assistants from across campus prepare

and deliver effective and comprehensible cross-discipline teaching-oriented presentations. However, while cross-discipline support and collaboration can be valuable, it can also be time-intensive. In the case of the GSI Program we had a team and several weeks to work with those teaching assistants individually, to help them develop their presentations for our annual colloquium. UGS does not have the luxury of time or personnel. They are trying to engage several cohorts of teaching assistants throughout the semester and across campus. Most importantly, UGS must not potentially squander the moments at the beginning of the semester when teaching assistants are less busy than they will be, when they are still excited about the prospect of teaching. Cohorts comprised of teaching assistants from similar disciplines and faced with similar responsibilities might increase the likelihood of commonality—of language, need, and purpose. Given the personnel constraints, changing the makeup of the cohorts also makes logistical sense. It is important for the School of Undergraduate Studies to continue to provide professional development support for teaching assistants; it is even more important that they do so in a way that fosters dialogue about teaching—a way that engenders dialogues that these emerging teachers can access and assimilate into their teaching cognitions. As Jerome Bruner (1990) argued, "the young, by native endowment and by exposure, come to participate in culture by *using* language and its narrative discourse *in vivo*" (p. 138). Surely, if a discipline-based cohort could foster dialogue, then perhaps the suggestion provided by the interviewed teaching assistants is at least worthy of further exploration, if not future implementation.

FUTURE RESEARCH DIRECTIONS

When I began thinking about how I might research teacher mindfulness and its impact on instruction, I envisioned an experimental design that administered 75 minutes of mindfulness training to one group and generic training for the other. In retrospect, that was shortsighted. I was attempting to avoid being ostracized for considering the implementation of a full-fledged 8-week long mindfulness meditation component. In a future, optimistically robust study, four groups would be studied, one would receive the normal training, one would receive the "brief mindfulness," training, a third would participate in an 8-week mindfulness training session, and the fourth would be part of a collaborative cohort, obliged to simply meet and discuss their instructional challenges and successes.

Another possible future direction would be the creation of an evaluation packet that measures the variable constructs, but from a college teacher's perspective. The instruments used in this study were either not designed to assess instructors per se, or were designed to assess new teachers of elementary school-aged students. There's a different element to that instruction; the college-aged learner has the potential to have more control over his or her learning, which provides a different sort of challenge for the instructor. A packet could include a newly designed and tested survey tool, but should also include interviews, with the instructor and students, observations, and readily accessible and pertinent professional development. The packet has to be a process of continued engagement and commitment to support, not merely a manufactured and meaningless number in response to a legislative dictum.

Another area of interest may be the comparison of CIS scores between those that participated in the study with those that did not. Additionally, it may prove fruitful to

explore any difference between those that participated in the interviews with the respondent group that chose not to be interviewed.

Lastly, is it possible for one to practice mindfulness in teaching without engaging in the process of mindfulness or without having been trained in mindfulness meditation? Black's (2011) contention that mindfulness is "an inherent quality of human consciousness" (p. 1) along with the "common humanity" factor of Neff's self-compassion (2003) suggests the possibility that self-compassionate mindfulness exists in us all—with or without training. That said, some might benefit from an initial or even ongoing mindfulness-based meditation-training regimen. That, too, should be explored. Also, how can the current tools be modified to capture active and effective mindfulness, especially as it relates to teaching? And, how are any reflective teaching practices that teaching assistants may engage in related to mindfulness practices?

CONCLUSION

Faculty, current and future, have been charged with the utmost responsibility; they are the stewards of crafting their student's thinking—making them more critical, and perhaps more insightful, but helping them become the banner bearers of the new knowledge, as well. It is critical that faculty at every level be developed in a way that optimizes their performance, while also ensuring that they are caring for themselves.

Teaching assistants are in a sort of disempowered purgatory, dependent on the goodwill of faculty, perhaps exhausted from the trials of their own studies, and their own outside-of-school issues. Professional development support staff should not make undue demands on teaching assistants—they should not require extensive record keeping, and then not follow-up to review requested materials. That is tantamount to asking a student

to write a paper and then tossing it in the trash without a glance. Students would not accept it. Nor should teaching assistants.

If indeed they do, instructional support staff should not wait until halfway thorough the semester to provide necessary writing assessment training, especially when teaching assistants are expected to help develop competent writers. That is part of the puzzle. Another piece is the need to generate, cultivate, and nurture quality faculty development that normalizes conversation about teaching and learning. While there is benefit to engaging students in the knowledge creation process, even as it pertains to how one delivers instruction, rigorous institutional habits geared towards cultivating dialogue about and around teaching can help the already stressed teaching assistant become better able to articulate and realize their own instructional goals.

Whatever the direction of future studies, it is critical that the measures used to assess instruction do what they are purported to do. Potentially having a teaching assistant's income, future teaching positions, and assessment of teaching contingent upon subjective, non-instructional measures of kindness, patience and receptiveness is not fair to the academy, the teaching assistants, or the students they serve, and that they will come to serve. Moreover, it may turn out that there is a need for a new construct, mindfulness-in-teaching, comprised of mindfulness and self-compassion, as well as the teacher concerns factors—self, task, and impact. Certainly this possibility is worthy of exploration.

Appendix A: Five Facet Mindfulness Questionnaire

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

1. When I'm walking, I deliberately notice the sensations of my body moving.
2. I'm good at finding words to describe my feelings.
3. I criticize myself for having irrational or inappropriate emotions.
4. I perceive my feelings and emotions without having to react to them.
5. When I do things, my mind wanders off and I'm easily distracted.
6. When I take a shower or bath, I stay alert to the sensations of water on my body.
7. I can easily put my beliefs, opinions, and expectations into words.
8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
9. I watch my feelings without getting lost in them.
10. I tell myself I shouldn't be feeling the way I'm feeling.
11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
12. It's hard for me to find the words to describe what I'm thinking.
13. I am easily distracted.
14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
15. I pay attention to sensations, such as the wind in my hair or sun on my face.
16. I have trouble thinking of the right words to express how I feel about things
17. I make judgments about whether my thoughts are good or bad.
18. I find it difficult to stay focused on what's happening in the present.
19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
21. In difficult situations, I can pause without immediately reacting.
22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.
23. It seems I am "running on automatic" without much awareness of what I'm doing.
24. When I have distressing thoughts or images, I feel calm soon after.
25. I tell myself that I shouldn't be thinking the way I'm thinking.
26. I notice the smells and aromas of things.
27. Even when I'm feeling terribly upset, I can find a way to put it into words.
28. I rush through activities without being really attentive to them.

29. When I have distressing thoughts or images I am able just to notice them without reacting.
30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.
31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
32. My natural tendency is to put my experiences into words.
33. When I have distressing thoughts or images, I just notice them and let them go.
34. I do jobs or tasks automatically without being aware of what I'm doing.
35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
36. I pay attention to how my emotions affect my thoughts and behavior.
37. I can usually describe how I feel at the moment in considerable detail.
38. I find myself doing things without paying attention.
39. I disapprove of myself when I have irrational ideas.

(Baer et al. 2006)

(Note: Although the FFMQ is typically analyzed from the perspective of the five facets—describe, observe, act with awareness, non-judge, and non-react—the scale will be used to assess trait mindfulness; this approach was sanctioned author's personal communication with Ruth Baer.)

Appendix B: Mindfulness Process Questionnaire

You will find below a series of statements that describe how people may react to the uncertainties of life. Please use the scale below to describe to what extent each item is characteristic of you (please select the number that describes you best).

1	2	3	4	5
Not at all characteristic of me	A little characteristic of me	Somewhat characteristic of me	Very characteristic of me	Entirely characteristic of me

1. When I feel myself getting caught up in my thoughts or feelings, I am able to bring my mind back to what's happening right now.
2. I don't consciously try to be accepting of whatever thoughts and feelings I have.
3. I try to be open to whatever happens, as it's happening, instead of having my mind wander to other things.
4. I intentionally try to be accepting of my thoughts and feelings as they occur.
5. When I notice that I'm not engaged in the present moment I can gently bring myself back.
6. If I notice that I'm being hard on myself for the thoughts and feelings I'm experiencing, I try to be kind to myself instead.
7. I don't intentionally try to be aware of the present moment. *
8. If I notice that I'm being critical of my thoughts of feelings, I try to be more accepting of them instead.

(Erisman & Roemer, 2012)

(* Note: Erisman and Roemer dropped item 7 to improve internal consistency, resulting in a seven-item measure. However, after personal communications with the authors—Erisman and Roemer—the author agreed to run the data with and without item 7.)

Appendix C: Metacognitive Awareness Inventory

The 52-item Metacognitive Awareness Inventory was constructed to measure the metacognitive awareness of adults. Items were classified into eight subcategories under the major categories of knowledge of cognition and regulation of cognition. Ratings for each item are made on 100-mm, bi-polar scale. The right end of the scale reflects the degree to which a respondent ages with a statement; the left-end reflects the extent that a respondent disagrees with a statement.

1. I ask myself periodically if I am meeting my goals. (M)
2. I consider several alternatives to a problem before I answer. (M)
3. I try to use strategies that have worked in the past. (PK)
4. I pace myself while learning in order to have enough time. (P)
5. I understand my intellectual strengths and weaknesses. (DK)
6. I think about what I really need to learn before I begin a task. (P)
7. I know how well I did once I finish a test. (E)
8. I set specific goals before I begin a task. (P)
9. I slow down when I encounter important information. (IMS)
10. I know what kind of information is most important to learn. (DK)
11. I ask myself if I have considered all options when solving a problem. (M)
12. I am good at organizing information. (DK)
13. I consciously focus my attention on important information. OMS)
14. I have a specific purpose for each strategy I use. (PK)
15. I learn best when I know something about the topic. (CK)
16. I know what the teacher expects me to learn. (DK)
17. I am good at remembering information. (DK)
18. I use different learning strategies depending on the situation. (CK)
19. I ask myself if there was an easier way to do things after I finish a task. (E)
20. I have control over how well I learn. (DK)
21. I periodically review to help me understand important relationships. (M)
22. I ask myself questions about the material before I begin. (P)
23. I think of several ways to solve a problem and choose the best one. (P)
24. I summarize what I've learned after I finish. (E)
25. I ask others for help when I don't understand something. (DS)
26. I can motivate myself to learn when I need to. (CK)
27. I am aware of what strategies I use when I study. (PK)
28. I find myself analyzing the usefulness of strategies while I study. (M)
29. I use my intellectual strengths to compensate for my weaknesses. (CK)
30. I focus on the meaning and significance of new information. (IMS)
31. I create my own examples to make information more meaningful. (IMS)
32. I am a good judge of how well I understand something. (DK)

33. I find myself using helpful learning strategies automatically. (PK)
34. I find myself pausing regularly to check my comprehension. (M)
35. I know when each strategy I use will be most effective. (CK)
36. I ask myself how well I accomplished my goals once I'm finished. (E)
37. I draw pictures or diagrams to help me understand while learning. (IMS)
38. I ask myself if I have considered all options after I solve a problem. (E)
39. I try to translate new information into my own words. (IMS)
40. I change strategies when I fail to understand. (OS)
41. I use the organizational structure of the text to help me learn.
42. I read instructions carefully before I begin a task. (P)
43. I ask myself if what I'm reading is related to what I already know. (IMS)
44. I reevaluate my assumptions when I get confused. (DS)
45. I organize my time to best accomplish my goals. (P)
46. I learn more when I am interested in the topic. (OK)
47. I try to break studying down into smaller steps. (IMS)
48. I focus on overall meaning rather than specifics. (IMS)
49. I ask myself questions about how well I am doing while I am learning something new. (M)
50. I ask myself if I learned as much as I could have once I finish a task. (E)
51. I stop and go back over new information that is not clear. (OS)
52. I stop and reread when I get confused. (OS)

Note. DK, declarative knowledge; PK, procedural knowledge; CK, conditional knowledge; P, planning; IMS, information management strategies; M, monitoring; OS, debugging strategies; and E, evaluation.

Operational Definitions of Component Categories

Knowledge of Cognition

1. Declarative knowledge: knowledge about one's skills, intellectual resources, and abilities as a learner.
2. Procedural knowledge: knowledge about how to implement learning procedures (e.g., strategies).
3. Conditional knowledge: knowledge about when and why to use learning procedures.

Regulation of Cognition

1. Planning: planning, goal setting, and allocating resources prior to learning.

2. Information management: skills and strategy sequences used on-line to process information more efficiently (e.g., organizing, elaborating, summarizing, selective focusing
3. Monitoring: assessment of one's learning or strategy use.
4. Debugging: strategies used to correct comprehension and performance errors.
5. Evaluation: analysis of performance and strategy effectiveness after a learning episode.

(Schraw & Dennison,1994).

Appendix D: Teacher's Sense of Efficacy Scale—Short Form

Teacher's Beliefs: This questionnaire if designed to help is gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Using the following scale, please indicate your opinion about each of the statements below.

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

1. How much can you do to control disruptive behavior in the classroom?
2. How much can you do to motivate students who show low interest in academic work?*
3. How much can you do to get students to believe that can do well in academic work?*
4. How much can you do to help your students value learning?
5. To what extent can you craft good questions for your students?
6. How much can you do to get your students to follow classroom rules?**
7. How much can you do to calm a student who is disruptive or noisy?
8. How well can you establish a classroom management system with each group of students?
9. How much can you use a variety of assessment strategies?
10. To what extent can you provide an alternative explanation or example when students are confused?
11. How much can you help students to do well in school?***
12. How well can you implement alternative strategies in your classroom?

(Tschannen-Moran, & Woolfolk Hoy, 2001)

Note:

- *"school work" was changed to "academic work"
- **"children" was changed to "your students"
- *** "assist families in helping their children" was changed to "help students to"

Appendix E: Self-Compassion Scale—Short From

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. Using the following scale, select the option that indicates how often you behave in the stated manner:

Almost never				Almost always
1	2	3	4	5

1. When I fail at something important to me I become consumed by feelings of inadequacy.
2. I try to be understanding and patient towards those aspects of my personality I don't like.
3. When something painful happens I try to take a balanced view of the situation.
4. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
5. I try to see my failings as part of the human condition.
6. When I'm going through a very hard time, I give myself the caring and tenderness I need.
7. When something upsets me I try to keep my emotions in balance.
8. When I fail at something that's important to me, I tend to feel alone in my failure
9. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I'm disapproving and judgmental about my own flaws and inadequacies.
12. I'm intolerant and impatient towards those aspects of my personality I don't like.

(Raes, Pommier, Neff, & Van Gucht, 2011)

Appendix F: Teacher Concerns Checklist—*Impact* Concerns

For each statement below, decide which of the five responses best applies to you now.

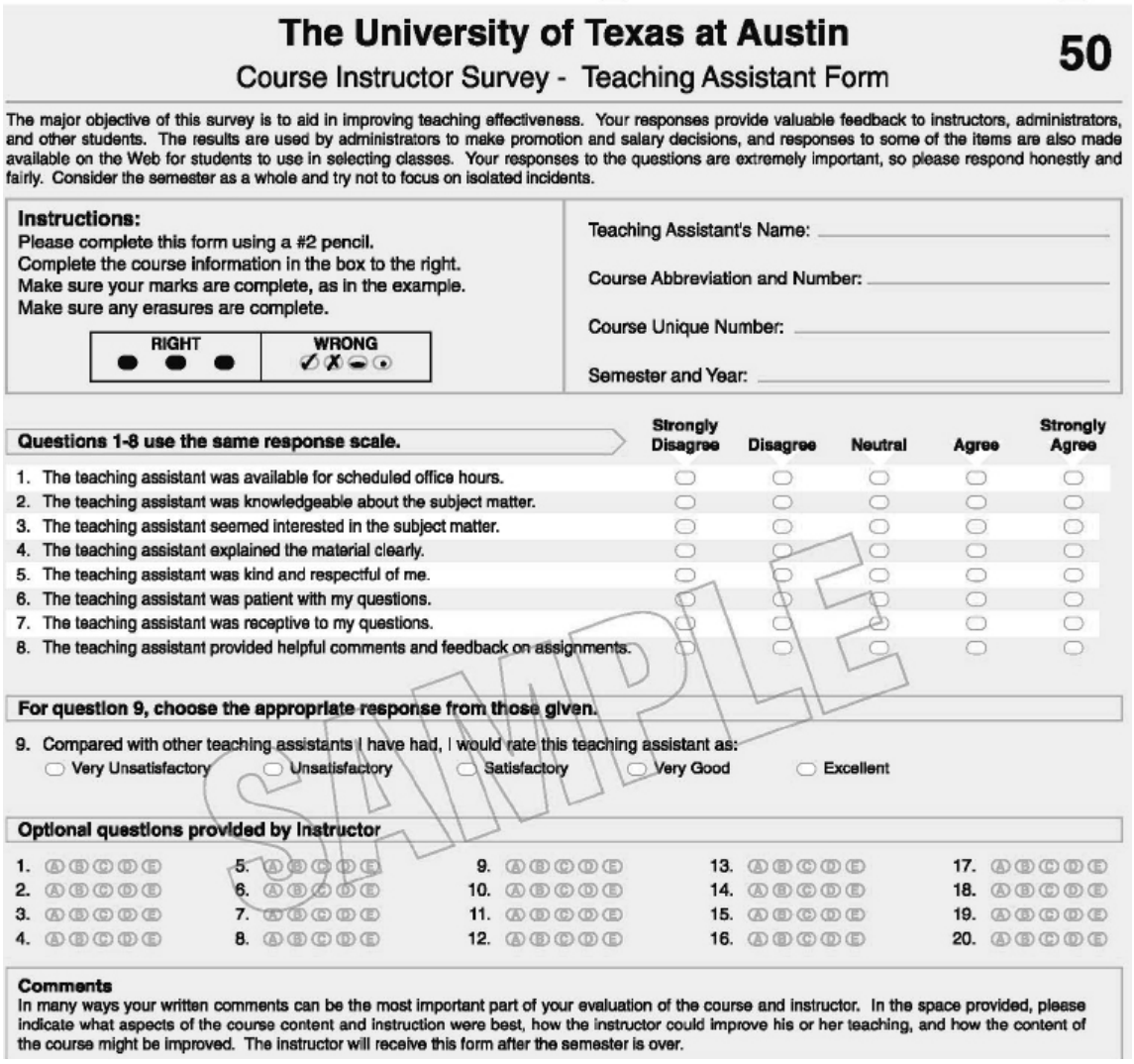
1	2	3	4	5
Not concerned	A little concerned	Moderately concerned	Very concerned	Totally preoccupied

1. Helping students to value learning.
2. Increasing students' feelings of accomplishment.
3. Diagnosing student learning problems.
4. Whether each student is reaching his or her potential.
5. Recognizing the social and emotional needs of students.
6. Challenging unmotivated students.
7. Understanding why certain students make slow progress.
8. Understanding ways in which student health and nutrition problems can affect learning.
9. Meeting the needs of different kinds of students.
10. Seeking alternative ways to ensure that students learn subject matter.
11. Understanding the psychological and cultural differences that can affect my students' behavior.
12. Adapting myself to the needs of different students.
13. Guiding students toward intellectual and emotional growth.
14. Whether students can apply what they learn.
15. Understanding what factors motivate students to learn.

(Fuller, 1969; Borich, 1993)

Note. See Table 2.3. Teacher Concerns Checklist for the full checklist, which includes “self and “task” oriented questions.

Appendix G: Course Instructor Survey – Teaching Assistant Form 50



The University of Texas at Austin **50**

Course Instructor Survey - Teaching Assistant Form

The major objective of this survey is to aid in improving teaching effectiveness. Your responses provide valuable feedback to instructors, administrators, and other students. The results are used by administrators to make promotion and salary decisions, and responses to some of the items are also made available on the Web for students to use in selecting classes. Your responses to the questions are extremely important, so please respond honestly and fairly. Consider the semester as a whole and try not to focus on isolated incidents.

Instructions:
Please complete this form using a #2 pencil.
Complete the course information in the box to the right.
Make sure your marks are complete, as in the example.
Make sure any erasures are complete.

RIGHT	WRONG
● ● ●	✓ ✗ – ⊙

Teaching Assistant's Name: _____

Course Abbreviation and Number: _____

Course Unique Number: _____

Semester and Year: _____

Questions 1-8 use the same response scale.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The teaching assistant was available for scheduled office hours.	○	○	○	○	○
2. The teaching assistant was knowledgeable about the subject matter.	○	○	○	○	○
3. The teaching assistant seemed interested in the subject matter.	○	○	○	○	○
4. The teaching assistant explained the material clearly.	○	○	○	○	○
5. The teaching assistant was kind and respectful of me.	○	○	○	○	○
6. The teaching assistant was patient with my questions.	○	○	○	○	○
7. The teaching assistant was receptive to my questions.	○	○	○	○	○
8. The teaching assistant provided helpful comments and feedback on assignments.	○	○	○	○	○

For question 9, choose the appropriate response from those given.

9. Compared with other teaching assistants I have had, I would rate this teaching assistant as:
○ Very Unsatisfactory ○ Unsatisfactory ○ Satisfactory ○ Very Good ○ Excellent

Optional questions provided by Instructor

1. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	5. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	9. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	13. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	17. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
2. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	6. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	10. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	14. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	18. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
3. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	7. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	11. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	15. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	19. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
4. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	8. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	12. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	16. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	20. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Comments
In many ways your written comments can be the most important part of your evaluation of the course and instructor. In the space provided, please indicate what aspects of the course content and instruction were best, how the instructor could improve his or her teaching, and how the content of the course might be improved. The instructor will receive this form after the semester is over.

SAMPLE

Note. A comment section has been deleted from the example Form 50. Typically, courses included in this study distribute this form to their discussion section students at the end of the semester.

Appendix H: Demographic Questions

1. What is your sex?
2. How many years of graduate study do you have?
3. Which of these terms best describes your ethnicity or race? Please select all that apply.
4. How much teaching experience (at any classroom level) have you had?
5. On average, how much time during a typical week do you spend meditating, praying or participating in another form of spirituality practice?

   Options for Questions 5: None; Up to 1 hour a week; More than 1 hour, up to 3 hours a week; More than 3 hours, up to 6 hours a week; More than 6 hours, up to 10 hours a week; More than 10 hours a week

6. Please indicate your school or college within The University.
7. What career path do you hope will result from your graduate studies?

   Options for Question 12: Researcher; Counselor/Therapist/Consultant; Faculty member at a research institution; Professional in the public sector; Faculty member at a teaching institution; Professional in the private sector; Teacher; Other; Administrator/executive officer

Appendix I: Invitation to Participate Letter

Dear UGS Teaching Assistant:
You are invited to participate in a research study examining several teacher and student variables that may be related to student perceptions of teaching. I am an Educational Psychology doctoral student here at UT conducting a study that we think will contribute to a better understanding of these variables and their interrelationships. Although the UGS office has approved this study, your choice to participate or not participate will not be shared with them. Only the final analysis and write-up will be offered to them for future planning purposes. If you agree to be in this study, you will be asked to complete one online survey responding to questions on these variables.
Risks of participation are considered minimal. Besides the time completing the survey (approximately 30 minutes), there will be no costs for participating. However, by completing the survey your name will be entered into a drawing for one of three $100 Target gift cards. If you choose to also participate in a follow-up interview, you will have another chance at a $100 Target gift card. Your privacy will be protected and only I will have access to the information you provide. Your name and email address will not be paired with your responses once the data are analyzed.
Your participation in this survey is voluntary. You may decline to answer any question(s) and you have the right to withdraw from participation at any time without penalty. If you wish to withdraw from the study after completing the survey or have any questions, please contact me at: markl.decker@utexas.edu.
This study has been reviewed and approved by The University of Texas at Austin Institutional Review Board. If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish - the Institutional Review Board by phone at 512-471-8871 or via e-mail at orsc@uts.cc.utexas.edu

If you encounter any problems while completing the survey, please send an email to markl.decker@utexas.edu.

As I mentioned, I, like you, am a graduate student, and I hope you will participate in this study. At a minimum, thinking about how the questions might serve you as a developing instructor could prove of value. Needless to say, the more participants, the better able I will be to accurately interpret the data. It is my hope that this study will inform instructor development.
Please click on the following link to gain access to the survey: QUALTRICS LINK
Thank you so much for your time and valuable input.
Sincerely,
Mark Lowry Decker, MSSW

512-560-9768
markl.decker@utexas.edu

Appendix J: Interview Questions

1. Describe a time when you were dissatisfied with your response to a student's question.
    a. What did you do?
2. How do you react when an English as a second language student asks a question that you can't understand even after they repeat their question two or three times?
3. How do you deal with distressing or disturbing thoughts you may have during a class session?
4. Describe a time in class when you realized your thoughts and feelings about a student in your class might be impacting your instruction.
    a. What did you do?
5. Tell me about a mistake you made in class.
    a. How did you deal with that mistake?
6. Describe a time when a student or students were being disruptive.
    a. What did you do?
    b. What might you have done differently?
7. Describe a time when you noticed a student's reaction to a point you were making in class that might demand attention.
    a. What did you do?
8. Describe what you do to help students value learning.
9. Tell me how you meet the learning needs of students.
10. Tell me how you know your students can apply what they learn in your class.
11. How do you take care of yourself?
    a. When?
12. How are you kind to yourself?
13. What are you thoughts about any UGS-sponsored training in which you participated?
14. What would you do differently to make the training more helpful for TAs that lead discussion sessions?

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